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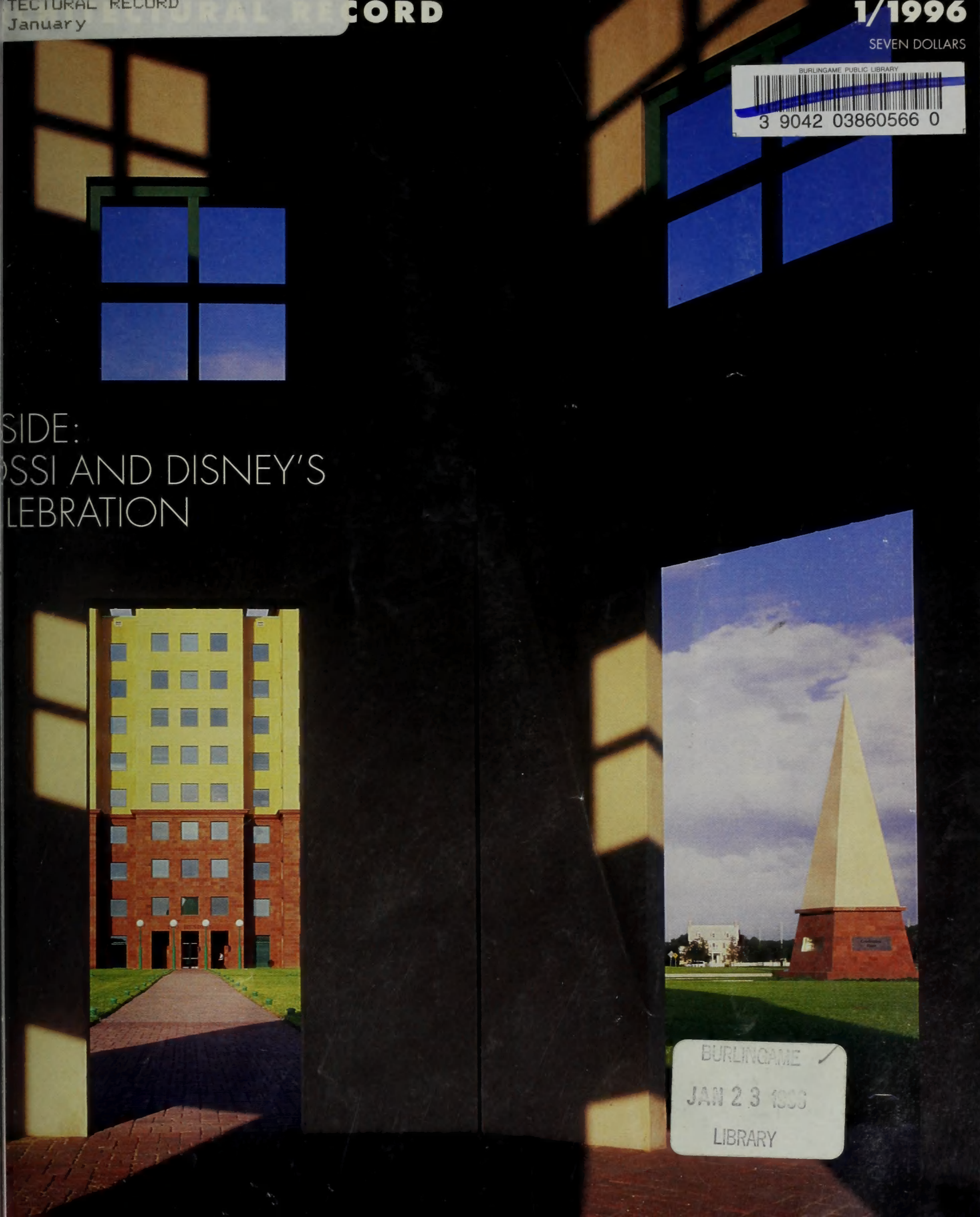

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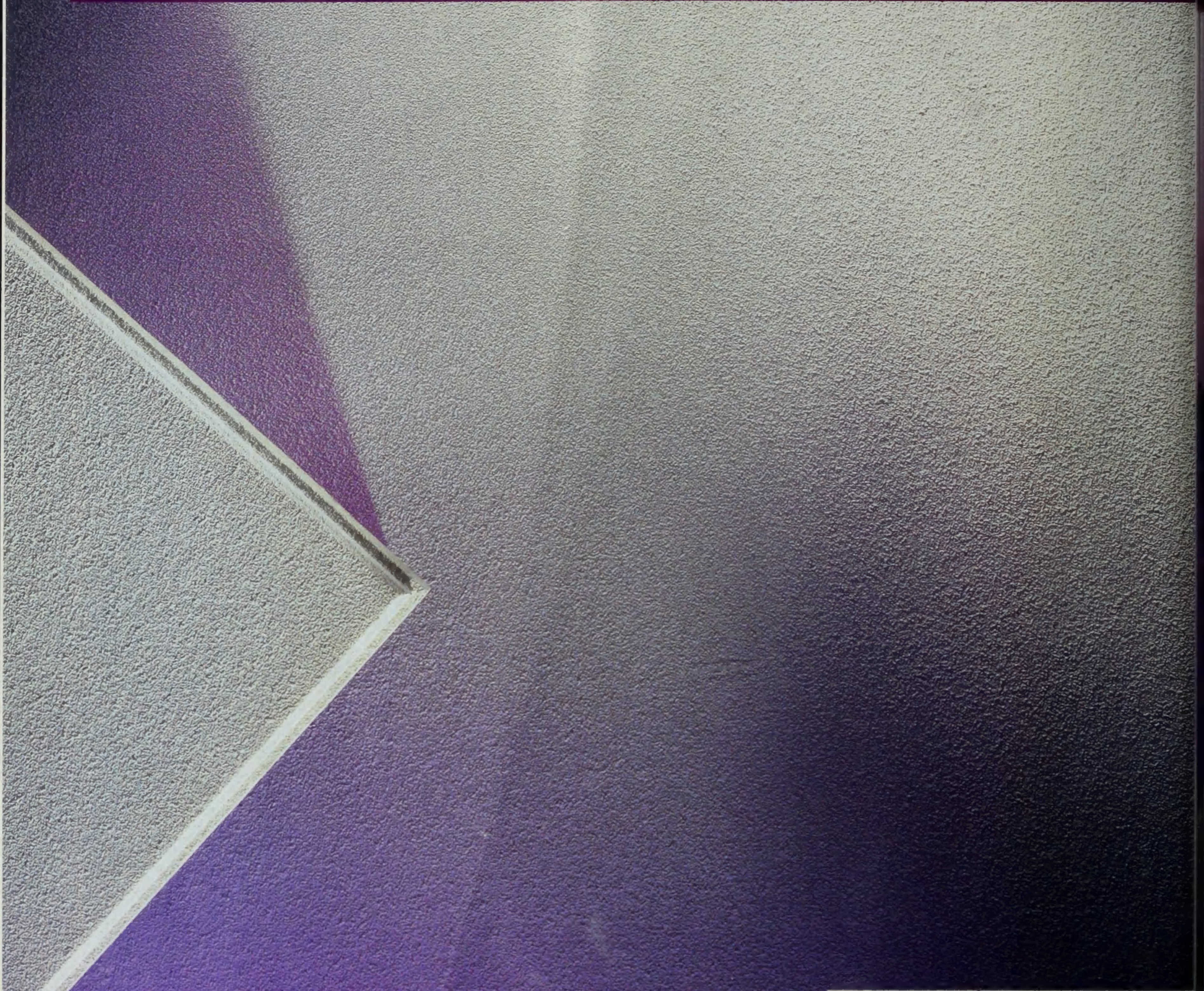

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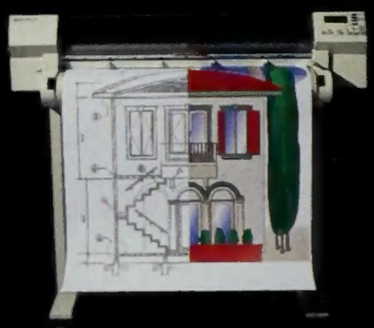

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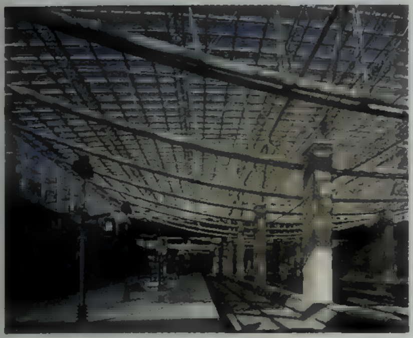
ARCHITECTURAL RECORD **1/1996**


©P. Maurer photo

Paul Andreu builds on a 30-year experience (page 76).

Next month

Building Types Study 734 features renovation, with special focus on adaptive reuse. Projects include recycled factories, an auto body shop, office building, warehouse, bank, school, theater, inner city townhouse, transoceanic liner, and a Civil War memorial.

In the Profession

- Services-driven firms
- Indoor-air quality update
- Technology: Retrofitting a cable-supported roof.

Also in February

RECORD's quarterly LIGHTING supplement

Cover: Celebration Place
Celebration, Florida
Aldo Rossi/Studio di Architettura, Architect
Smallwood, Reynolds, Steward, Stewart & Associates, Associate Architect
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FEATURES

Introduction 55

Celebration Place 56 *Celebration, Florida* — *Aldo Rossi/Studio di Architettura, Architect; Smallwood, Reynolds, Steward, Stewart & Associates, Associate Architect*

Designs on the Future 64 *Celebration, Florida* — *Essay by Beth Dunlop*

Charles B. Thornton Center for Engineering Management 70 *Stanford University, Palo Alto, California* — *Tanner Leddy Maytum Stacy, Architect*

Exchange Module Charles de Gaulle Airport 76 *Roissy-en-France* — *Paul Andreu and Jean-Marie Duthilleul Architects; Peter Rice, Engineer*

BUILDING TYPES STUDY 733/Affordable Housing

"Making Affordable Projects Work" 86 — *Essay by H. Jane Lehman*

Homan Square 88 *Chicago, Illinois* — *Nagle Hartray Danker Kagan McKay Architects/Planners*

SRO Residence 92 *Brooklyn, New York* — *Architrope, Architect*

Los Esteros Apartments 94 *San Jose, California* — *Fisher-Friedman Associates, Architect*

THE PROFESSION

Indicators 23 Construction volume/barriers to innovation
Sustainable Practice 24 The Market's Buying Green
Agenda 30 Can Architecture and Politics Mix?
Computer Imaging Firms 36 CAD Presentations Get Real
Software Reviews 41 Standard Data Gets Data Standards
New Products/Briefs 46 Residential Cladding

Editorial 7 Bloody Sunset: Housing Tax Credits Head for Oblivion, Unless...

Letters/Calendar 4
Design News 11
Observations 17
Manufacturer's Sources 96
Product Literature 98
Classified Advertising 106
Advertising Index 108
Reader Service Card 109

Letters

Ulm umbrage
Having visited Ulm, Germany, I feel Richard Meier's Stadthaus [RECORD, October 1995, pages 90-99] is totally inappropriate for the space.
John L. Luttig
Overland Park, Kansas

As a long-time admirer of Richard Meier's work, I read Tracy Metz's piece on his new Stadthaus in Ulm, Germany, first. I differ with her view: it is a shame not enough signatures were obtained by opponents of this project to protect this fragile urban environment.

My first encounter with this urban space and the magnificent cathedral of Ulm was in 1971. I have revisited it several times and admired the restraint of all previous architects at protecting this important vantage point from which to view the cathedral. Now that Mr. Meier's "kit of parts" approach to architecture is complete, it is clear that the City of Ulm has been the victim of an expensive "shell game."

Mind you, I have no quarrel with Mr. Meier's dedication to a singular thought, and it is clear to anyone who has experienced his work they are architectural sculptures. Too powerful in fact to properly display any art one might hope to honor. My dissatisfaction lies in the imposition of this work on the serenity of the city square, and the aggressive competition it provides to the uplifting power of the Ulm Cathedral. Mr. Meier may well be an architectural icon, but he is certainly not an urban planner.

The architect's desire to find a site on which to build another architectural "jewel" has blinded him to the real issue at hand, an issue the city has struggled with for more than 100 years. This is yet another example of architectural salesmanship at its highest level. I am sure if Mr. Meier were a "tin man," the entire city square would be sheathed in white aluminum siding.

Perhaps the city fathers of Ulm will one day find the courage to correct this mistake, and once again return the site to cobblestones. Until then, one can never again fully appreciate the Ulm cathedral or photograph it without carefully framing to block out this white elephant.

I hope the city fathers of Paris have no intentions to yield a building pad on the plaza in front of Notre Dame for such a project.
Robert H. Kastens
Director of Architecture and Planning
The Benham Group, Inc.
Oklahoma City

Too Many Architects?
The article, "Are There Too Many Architects?" by R. Gregory Turner [RECORD, October 1995, pages 42-45] is one of the most refreshing and on-target treatises on this topic I have seen in any publication. Turner's analyses are thorough and compelling, and his suggested solutions sensible.

I have one complementary proposal to add to the thrust of Turner's arguments. That is to tighten up the focus of entrance requirements for admission to architectural schools. It is my perception from interviewing fresh graduates over the 25 years of my practice that too many are admitted to architecture schools, and *allowed to graduate*, who should never have been allowed in the first place. And numbers seem to have increased over the years. To address this, not long ago I drafted a list of personality and character traits which should

continued on page 102

Calendar

Through January 14
"Claes Oldenburg: An Anthology," a showing of 200 drawings, collages, and sculptures at the Guggenheim, New York City.

Through January 14
"Architects of Image: Photography in the Heroic Age of Construction;" Canadian Center for Architecture, Montreal; 514/939-7000; fax 514/939-7020. Boston; fax 617/951-0845.

Through January 19
Entries of the finalists in the Williamsburg Design Competitions are on display in Building C at the James City County Government Complex in Williamsburg, Virginia. 804/253-6671

January 20-February 4
"Domes: Constructing and Decorating an American Symbol" at the National Building Museum in Washington, D. C. January 20, 21, 27, 28 and February 3 and 4. 202/272-2448.

Through January 21
"Paolo Soleri: 25 Years at Arcosanti" at the Chicago Athenaeum. A celebration of the Italian-American architect and his Utopian city under construction in the Arizona desert. 312/251-0175.

Through January 21
"Film Architecture: Set Designs from METROPOLIS to BLADE RUNNER" at the David Winton Bell Gallery at Brown University, Providence. 401/863-2476.

January 25-April 19
"Six Bridges: The Making of the New York Megalopolis" at the PaineWebber Art Gallery, 1285 Avenue of the Americas (51st Street), New York City. An exhibition of the six bridges designed by Othmar H. Ammann. 212/713-2885.

February 3
"Surrealist Vision and Technique: Drawings and Collages from the Pompidou Center and the Picasso Museum, Paris" is an

continued on page 103

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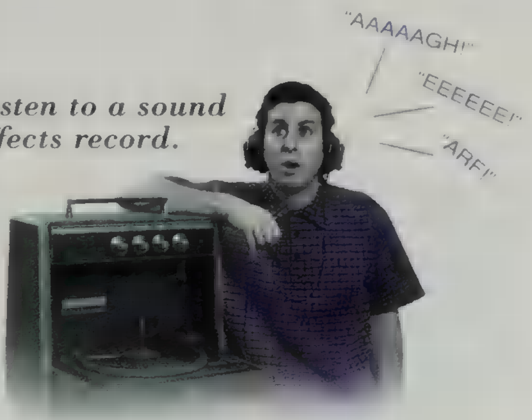
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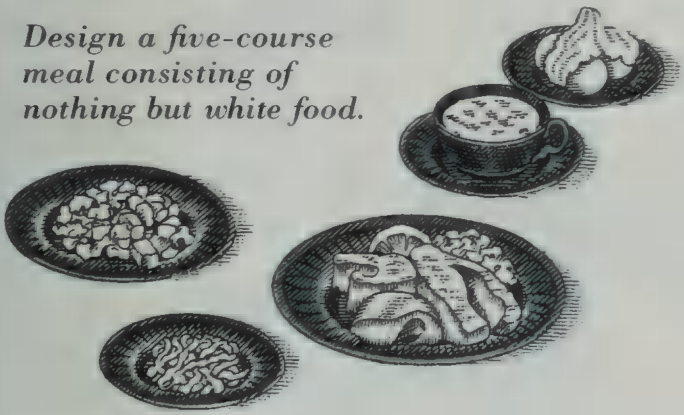

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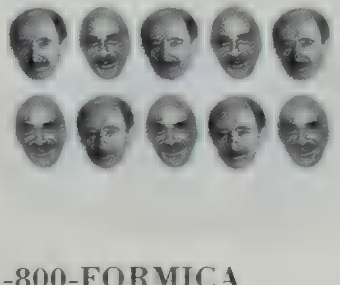

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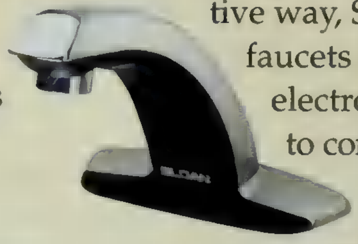

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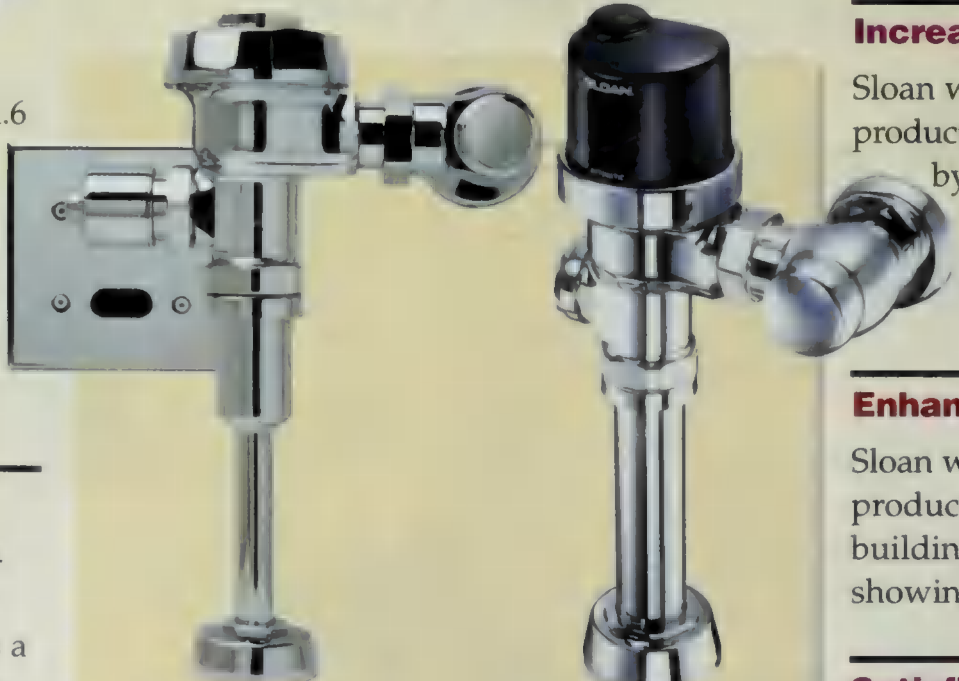

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Bloody Sunset: Housing Tax Credits Head for Oblivion, Unless—

One of the more bizarre dramas to hit the political scene in years is playing itself out at this writing in Washington, D.C. Chairman Bill Archer of the House Ways and Means Committee, miffed at a proposal by Democrats in the last Congress to give permanent status to the Low Income Housing Tax Credit (LIHTC) program—it's a part of the 1986 Tax Reform Act—but to deny it to a parallel R&D program, persuaded both the House and a joint Senate-House conference committee to sunset the program after 1997. Sunsetting is a term that has emerged in recent years to ensure that programs no longer deemed viable are ended. Currently the LIHTC program is subject to year-to-year funding, an inefficient process that defies long-term planning.

In this case, there's a tragedy in the making. LIHTC is the only existing housing support program to have made a dent in the dire shortage of housing for low-income families. Producing over 100,000 units a year, it is the largest driver of new and renovated low- and moderate-income housing in the nation, pouring some $320 million a year into state-administered programs. It provides 20 per cent of all multi-family housing, revitalizes communities by involving them in the planning process, creates opportunities for architects, provides construction jobs, and generates new businesses in the community. And it's virtually the only game in town. (See this month's Building Types Study on affordable housing, beginning on page 86).

It works like this. To build housing at below-market cost, developers need to borrow capital at an affordable rate. Investors provide the capital, receive tax credits under the program for 10 years on any profits they make, and write-offs for passive real estate losses for another five, promising them a tidy return over the 15 years, after which they can sell the housing. The reduced costs are passed on to the tenant families in the form of lower rents.

The idea of a housing safety net provided by government has gone though a range of scenarios since it was launched in the 1930s, tacking past the tricky political shoals pitting social sensitivity against rugged self-reliance, homeownership against rent support, project-based support against tenant-based support. The scenario for the 1990s is the tax-credit that motivates investors to help provide housing at affordable rents.

Architects have both a business interest and a social interest in preserving the program. Without getting into the recondite byways of federal legislation, the bottom line is that the program, to receive funds, needs to get into an approved "reconciliation bill," an instrument that matches expenditures and tax provisions against budgets. That's the challenge now on the table. Both political parties by and large agree that it's the most efficient, productive program at work. Everyone gains—the community, the family, the investor, and the construction industry.

As AIA's director of federal legislative affairs, Al Eisenberg, told RECORD, "There's no reason for this program to be in jeopardy." Let's keep it alive.
Stephen A. Kliment

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News

Briefs

Holl turns green in Virginia
Steven Holl Architects will design an 11,000-sq-ft classroom and studio addition to the University of Virginia's Campbell Hall school of architecture. The project is to be a model of environmentally sustainable building.

Awards
The Urban Land Institute announced its 1995 awards for outstanding real-estate development projects, which include 640 Memorial Drive, Cambridge, Mass., Tsoi/ Kobus & Associates; Broadway Plaza, Walnut Creek, Calif., Field Paoli; Disneyland Park, Anaheim, Calif., Disney Development Co.; Irvine Spectrum, Orange County, Calif., SOM, Langdon Wilson and PBR, land planners; Little Nell Hotel/Aspen Mountain Base Area Development, Aspen, Colo., Design Workshop; Monterey Bay Aquarium, Monterey, Calif., Esherick Homsey Dodge & Davis; Pelican Bay, Naples, Fla., Charles Turner and John Simonds, land planners; Riverbank State Park, New York City, Richard Dattner; Strathern Park Apartments, Sun Valley, Calif., Withee Malcolm Partnership.

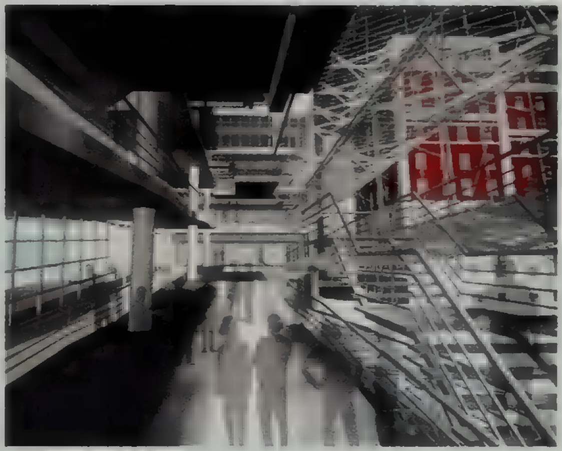
Architecture as remedy
A competition for housing in North Philadelphia tries to heal a destitute neighborhood with good architecture. Sponsored by the Foundation for Architecture, the Francisville Housing competition challenged local architects to come up with humane solutions for a site that the Philadelphia Housing Authority plans to use for subsidized housing. A first prize of $5,000 went to Cassway Albert, Ltd. for a proposal that included housing units in an L-shape around communal gardens. Second prize went to Mike Rosen and Associates and merit awards to Dan Peter Kopple & Associates, Joseph A. Serratore Architect & Associates, and Design Management Solutions Unlimited.

Koolhaas teams up
Rem Koolhaas's Rotterdam-based Office for Metropolitan Architecture has joined forces with Dutch firm De Weger Architects and Consulting Engineers. The firms will share offices but maintain their autonomy.

New York City

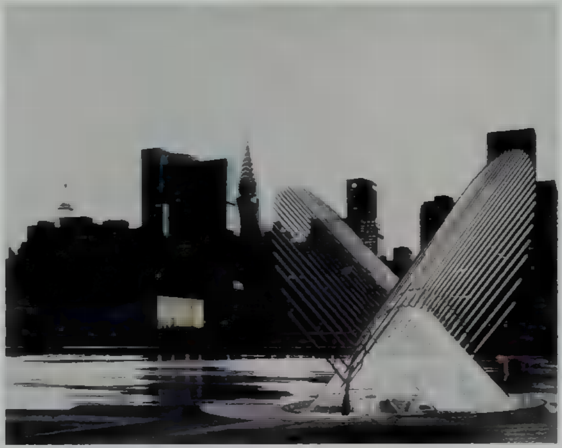
Tschumi Abstracts McKim, Mead, & White's Plan for Columbia University

Bernard Tschumi, who as an architect is best known for his Parc de la Villette follies in Paris, has resurrected a circa 1870s McKim, Mead, & White campus plan for Columbia University in his design of the school's new student center. Tschumi, dean of the University's graduate school of architecture, has teamed up with Gruzen Samton to produce Lerner Hall, which adheres to the original plan with three distinct volumes. Scheduled to open in 1999, it will contain an auditorium, movie theater, radio station, and student clubs and mailboxes. *Nicolai Ouroussoff*



New York City

A Bird-like Structure Rises From the Ruins



Santiago Calatrava's design for a restaurant pavilion on the southern tip of Roosevelt Island is the latest tentative step in the rehabilitation of Southpoint: the old island asylum, called the Octagon, has been stabilized and plans are afoot to build Louis Kahn's proposed memorial park. Calatrava's design takes the form of a glass and steel cocoon. A moving "brise soleil" roof encloses the structure at night like two giant wings and playfully manipulates light and shadow. A stone base is made up of ruins from a hospital previously on the site. *N.O.*

San Diego

Doctor Challenges Architects

A dire picture of American medicine was painted by Patch Adams, M.D., in his keynote address to the 8th Symposium on Healthcare Design, sponsored by The Center for Health Design, founded and headed by architect Wayne Ruga. Adams cited high cost and dehumanization as crucial areas where architects must work to make a difference. Berkeley professor Clare Cooper Marcus and landscape designer Marni Barnes launched their long-awaited report, *Gardens in Healthcare Facilities*. The report cites growing evidence that gardens have a major therapeutic impact on the healing process as an extension of traditional healthcare therapies. For copies, priced at $27, call The Center at 510/370-0345. *S.A.K.*

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Institute for the American Urban Landscape Re-maps St. Paul

"Our infrastructure is our new social covenant," says urban designer Bill Morrish. After years of mapping his home territory of Minneapolis-St. Paul, he is proving his point with an ambitious plan for the revitalization of St. Paul. The Institute for the American Urban Landscape, directed by Morrish and his wife, Catherine Brown, at the School of Architecture of the University of Minnesota, has created a blueprint for the city that will use its natural location to attract new businesses, industry, culture, and inhabitants. Now, with the help of Toronto-based planner Ken Greenberg, the city is implementing many of the Institute's plans. "Every city needs a sense of a whole, how things connect to create a community," says Mayor Ken Coleman, "and Catherine and Bill have provided that."

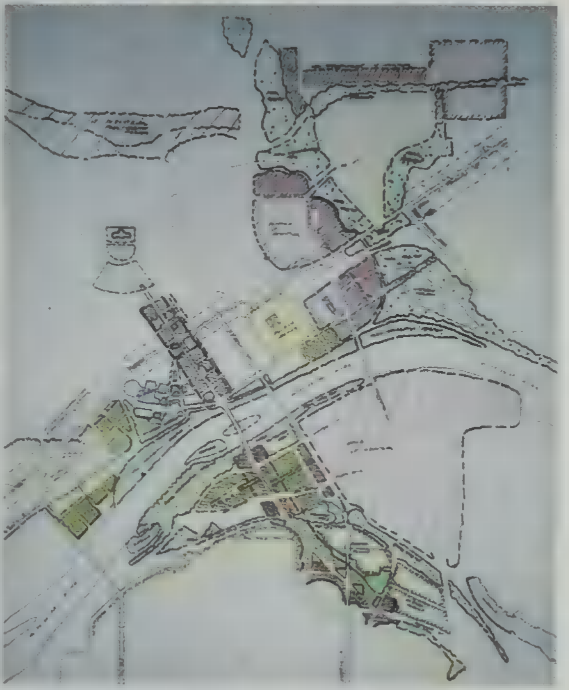
Morrish and Brown start their investigations with the land itself. Specifically, the focus on watersheds, not only because they believe development patterns follow the rivers, knotting together around crossings, portages, or ports, but also because the flow of water maps aspects of the geography that otherwise might not be noticed. In the Minneapolis-St. Paul area, the city established itself at the last navigable point of the Mississippi. Neighborhoods developed first on bluffs, and then by tracing the alluvial fans of creeks draining into the river. The flood plains were taken over by industry, and cuts in the bluffs became corridors for trains and, later, cars and trucks.

The first task of any urban design, Brown and Morrish point out, is to rediscover and re-use these patterns on an urban scale. Thus as the "industrial glacier" that traced the flood plains created by the real glaciers recedes, they want to turn the resulting flat plains into combinations of "clean" industrial parks and green zones, allowing the natural hydrology of the area to shape the development. The natural routes along the bluffs, which birds trace in their flight pattern overhead, were already converted into a system of parkways according to a 1917 plan by William Bennett, and Brown and Morrish want to finish its missing links.

The problem for downtown St. Paul is its immediate relation to the river. As in many other cities, highway development in the 1960s cut off the city from its shore. Thus, cars replaced boats along the river corridor, and tiered parking garages badly mimicked the bluffs. To Greenberg, this situation becomes an excuse for an "urban terrace" such as the ones in Quebec City or Brooklyn Heights. In the future, landscaped stairs and escalators will connect a series of new cultural institutions, such as a Science Museum currently under construction, to a river front where a $500-million flood-control project has created new walkways and park areas. He then envisions retractable canopies over these public spaces to replace the ubiquitous and isolating skywalk system. A renovation of Wabasha Avenue, currently underway, will link the State Capitol through downtown to a thriving Hispanic community on the opposite bank of the river. "What we do is to connect buildings. Instead of the cult of the isolated project, we link neighborhoods," Greenberg explains.

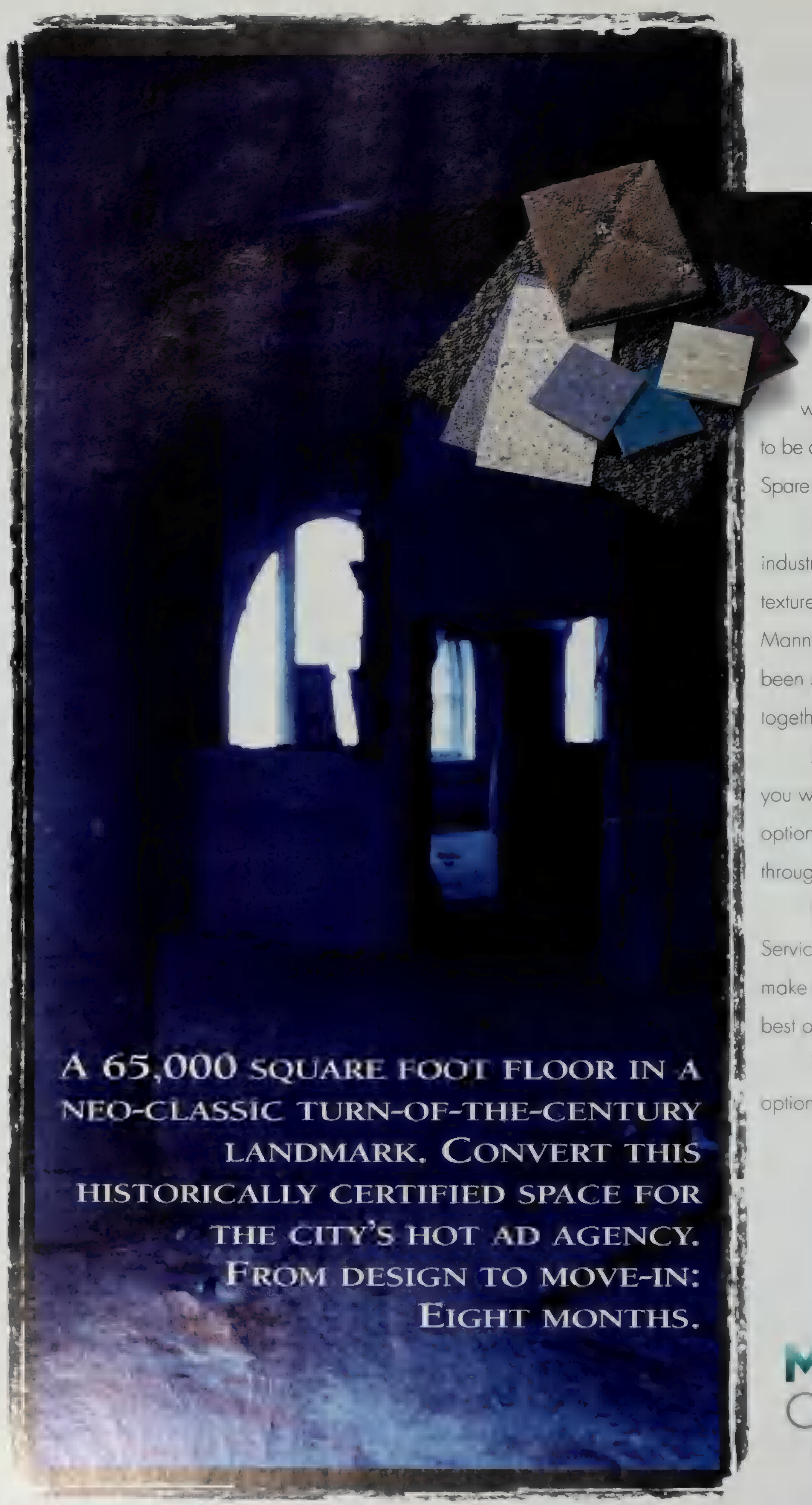
Though some of these projects resemble traditional urban-planning solutions, Brown and Morrish point out that they are part of a larger reading of the region. They think it is not just a question of revitalizing downtown or creating parks, but of figuring out what to do with the "mushy context" of the concentric rings of suburbs the city is producing out in the prairie. In the Institute's newsletter and the group's consulting work, they have proposed ways that all of these communities could be linked both to one another and to the natural terrain to foster a sense of reality. "The first thing you need," says Morrish, "is a common language. It's not as much about land use as it is about reading the land." By focusing on "topography, not typology," they hope to "inflect social and geographic systems to make them work better together."

In St. Paul, this means creating maps of the city that have made it legible to the various neighborhoods and pressure groups that shape the political landscape. "The main thing they have achieved," says Patrick Seeb, executive director of the non-profit St. Paul Riverfront Corporation, "is to let people see the vitality of St. Paul. Their maps act as catalysts that bring people 'around the table' who weren't there." The result is a plan of connections rather than isolated development schemes.



St. Paul's central Mississippi River valley (top) and proposed land uses (below). Light pink is existing offices/light industry; dark pink new offices/light industry; dark blue is public institutions; red is mixed use (retail, offices with housing above); light yellow is existing housing; dark yellow is new housing; green is existing and new parks.

"They lay out the environment," says Mayor Coleman, "and then we can market that." St. Paul, he hopes, will emerge out of Minneapolis' shadow to become a "big small town" embedded in a network of small towns connected by the river and its watershed. Out of that fertile plain will come rational development and a better place to live. As the Mayor puts it: "Cities are places people have in common." *Aaron Betsky*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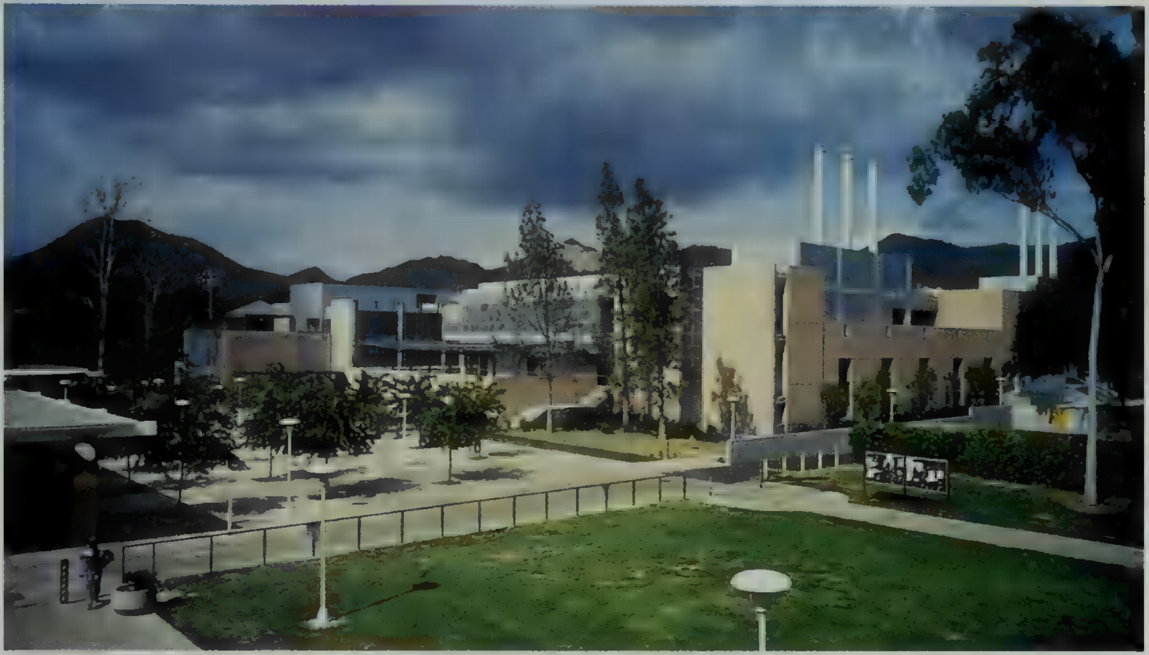
AIA Honor Awards Are Given To 27 Projects

The American Institute of Architects has announced its 1996 honor awards. *In architecture:* Murray Theater, Highland Park, Ill., Skidmore, Owings & Merrill; The Banner Building, Seattle, Weinstein Copeland Architects; Perry Community Education Village, Perry, Ohio, Perkins & Will; Center for the Visual Arts, Toledo, Frank O. Gehry & Associates; Engineering Science Building, Unit 1 UC/Riverside, Anshen + Allen (1); Warner Brothers Children's Center, Burbank, Calif., Rios Associates; 31st Street House, Santa Monica, Calif., Koning Eizenberg Architecture; Weekend Residence, Catoctin Mountains, Md., Bohlin Cywinski Jackson; Entrance Pavilion, Penn Station, New York City, R.M. Kliment & Frances Halsband Architects; Michigan State Capitol, Lansing, Mich., Richard C. Frank; Joslin Diabetes Center, Boston, Ellenzweig Associates (3); Munich Order Center, Murphy/Jahn; Buckingham Memorial Foundation, Chicago, Harry Weese Associates; KUDAMM 70, Berlin, Murphy/Jahn (2). *In interiors:* Showroom/studio, Guilford of Maine, Webster, Mass., Robert Luchetti Associates (4); Gardner Residence, Chicago, Valerio Dewalt Train Associates; Lighthouse Headquarters, New York City, Mitchell/Giurgola; Christina Dev't Center, Malibu, Calif., Kanner Architects; David Saul Smith Union, Bowdoin College, Brunswick, Maine, Hardy Holzman Pfeiffer Associates; New Library, Baruch College, New York City, Davis, Brody & Associates. *In urban design:* The Belvedere/Battery Park City, Mitchell/Giurgola; The Ninth Square, New Haven, Conn., Herbert S. Newman & Partners; Mainstreet Alaska, Soldotna, Alaska, M Mense Architects; New York State Canal Recreationway, Beyer Blinder Belle; Congress Viaduct/Plaza, Chicago, DLK Architecture; Cleveland Gateway district, Cleveland, Sasaki Associates (5); West Main Street Corridor, Charlottesville, Va., William Rawn Associates.

The AIA board elected not to award a 1996 Gold Medal, due to a lack of a three-fourth's majority. John L. Wilson won the Whitney M. Young Jr. Citation, and Sylvester Damianos, vice chairman of The American Architectural Foundation's Board of Regents, won the Edward C. Kemper Award. SOM won the Firm of the Year award for the second time. ■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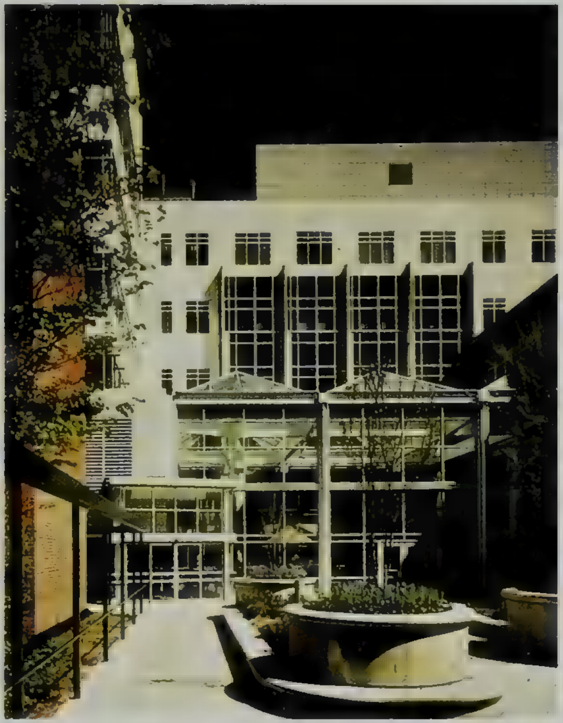
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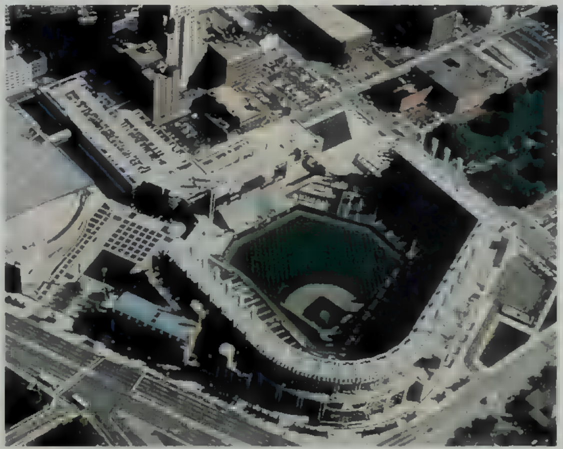
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Washington Monuments: Battles Over the Mall

A frenzy of monument building is sweeping through the nation's capital. Roger Lewis takes stock of the latest additions and what's to come.

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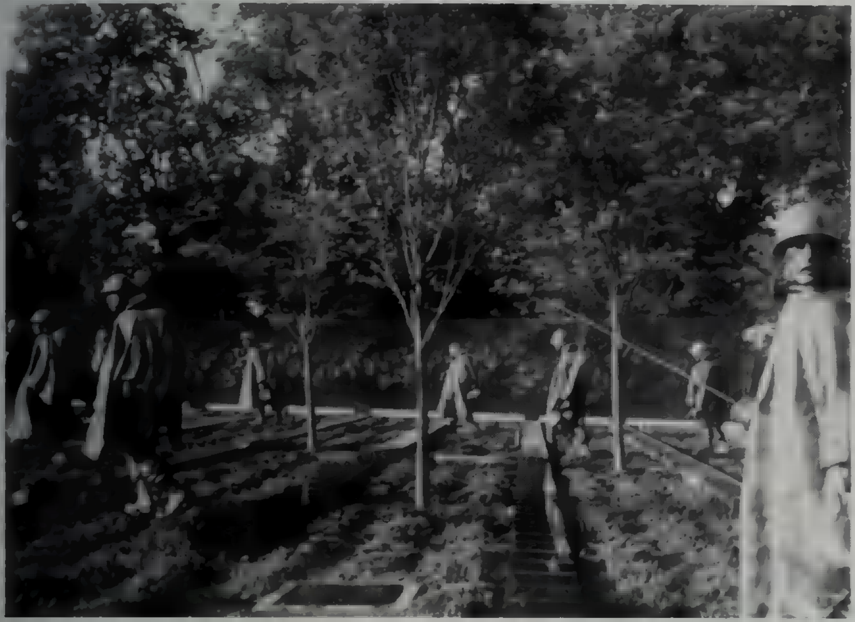
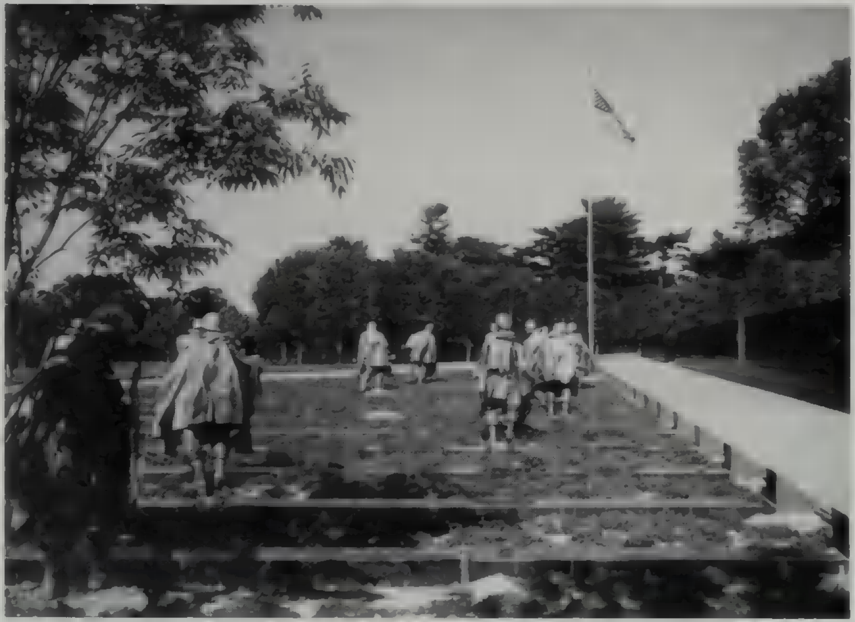




By Roger K. Lewis

Last July, on a hot, humid day in Washington, D.C., the Korean War Veterans Memorial (photos above) was dedicated. Over six years had elapsed since the spring 1989 national design competition was won by a team of architects and landscape architects based at Pennsylvania State University.

That team proposed building a metaphoric landscape of expansive triangular plazas, groves of plane trees with canopies pruned into distorted shapes, and a flag. Perhaps most important to the memorial imagery of this strongly geometrical landscape, occupying the southwest corner of the Mall opposite the Vietnam Veterans Memorial, would be a column of 38 American soldiers frozen in a moment of convergence on their single destination, the flag. It was a memorial design intended to be at once representational and symbolic, a commentary on both the costly horror of war and the honor of combatants who, when called, serve their nation dutifully and unselfishly to wage war.

After receiving their prize money, the winning designers—Burns Lucas, León, Lucas, Pennypacker Oberholtzer (referred to as BL3PO, then BL3 when Pennypacker Oberholtzer dropped out)—were paired up as "design consultants" with Cooper-Lecky Architects, the Washington firm designated as architect-of-record. Cooper-Lecky, having worked previously with Maya Lin in executing the Vietnam Veterans Memorial, had the technical expertise and procedural experience needed to carry out the project.

Roger K. Lewis, a practicing architect, writes for The Washington Post *and teaches architecture at the University of Maryland.*

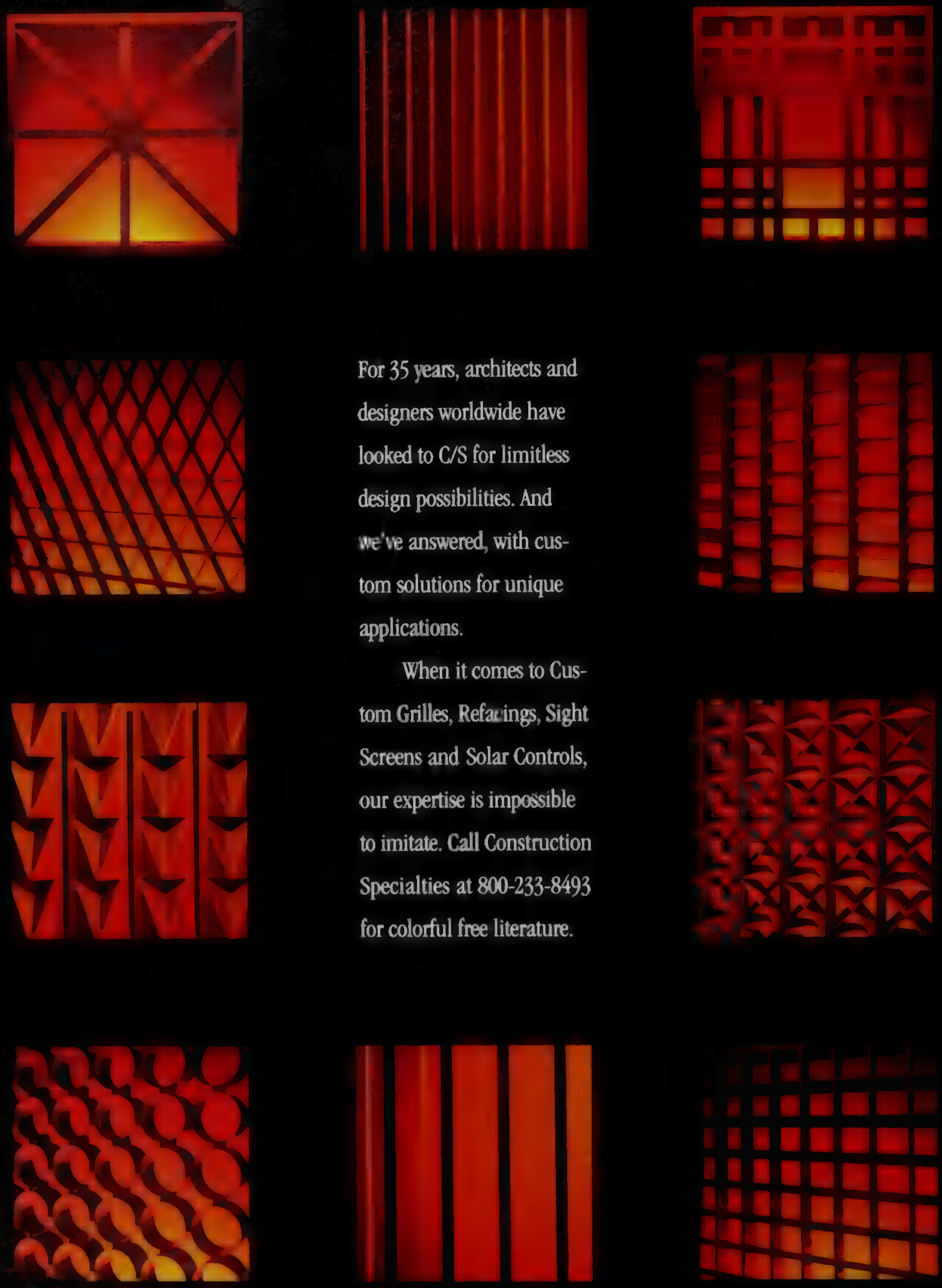
But conflicts soon arose between the two design groups as substantial changes were suggested by the Korean War Veterans Memorial Advisory Board, numerous federal agencies with jurisdiction over the site, and Cooper-Lecky. The changes sought to reduce the size and cost of the memorial, simplify its overall composition, and improve circulation around and through it. BL3 resisted many of the proposed modifications, claiming that the integrity of their original design was being violated, that their concept was being unreasonably compromised and watered down. Further, they felt themselves being increasingly excluded from the design process.

The impasse led to BL3's complete withdrawal and subsequently to litigation in federal court, which proved ultimately unsuccessful since the terms of the competition guaranteed neither the faithful implementation of the winning design nor the winners' participation in the post-competition design process. Having become the sole architect, Cooper-Lecky then spent three years working through multiple design variations. After many meetings and trips back to the drawing board, they finally obtained approval of what has now been built and dedicated.

Remnants of the competition-winning design can be found in the final ensemble created by Cooper-Lecky, sculptor Frank C. Gaylord II, and muralist Louis Nelson: the soldiers, reduced in number from 38 to 19, are still marching toward a common objective, the flag; the "field of service" occupied by the soldiers is triangular, reminiscent of the competition-winning scheme's geometry; a grove of trees—lindens, not plane trees—is an integral part of the ensemble, although its formal disposition is different. Not derived from the competition-winning design is a 164-foot-long wall of polished black granite—can anyone doubt its source of inspiration?—etched with the faces of support troops and terminating in an elevated circular pool at the eastern vertex of the triangular field.

Metal soldiers in a Platonic landscape

As shaped by Cooper-Lecky, the premiated design evolved into a memorial smaller in size and more accessible to visitors both physically and symbolically. Like the original BL3 design, the immaculately detailed memorial's most arresting architectural quality results from compositional tension: the larger-than-life, gun-metal-gray soldiers in motion, molded softly and imprecisely of stainless steel, looking anxious, weary, determined; and a highly abstracted, almost Platonic landscape crafted of hard-edged, machined slabs of granite—long rectangular wall, linear plinths, a circular pool, furrows in the triangular field defined by parallel strips of polished stone separating rows of juniper. *(Continued)*



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The Korean War Veterans Memorial has been enthusiastically welcomed and generally praised by the public, both for its design and its craftsmanship. But this writer cannot look at it without thinking that something went awry, that both the design process and final product were flawed.

Cleansing a project's design history

As I walked around the memorial, its debt to its precursor was unmistakable. I kept recalling the BL3 scheme, as if I were looking not at an original work of design, but rather at a radically remodeled version of a work by someone else, a work beaten into acceptable shape by its architect and by the several official bodies with absolute dominion over this landscape—the Korean War Memorial Advisory Board, the American Battle Monuments Commission, the National Capital Memorial Commission, the National Park Service, and the Commission of Fine Arts.

And how thoroughly the memorial's design history had been cleansed, there being little official mention of the design competition, the conceptual starting point for the design, and little credit given to BL3 for its contribution of the germinal ideas.

Few who see the memorial will care that its creation was plagued by years of controversy and compromise. Visitors will like its relatively small scale and its unambiguous figurative and representational messages. They will not pose questions: Why so many soldiers? (Nineteen is half of 38, a dubiously meaningful reference to the parallel dividing North and South Korea.) Why the number of disparate elements? Why the wall lamely echoing the Vietnam Veterans Memorial? Why, next to the flag toward which the soldiers are struggling, a round pool into which the end of the etched wall plunges? Why isn't the flag plaza less encumbered, surrounded instead by open space no less capable of evoking contemplation than a pool of water?

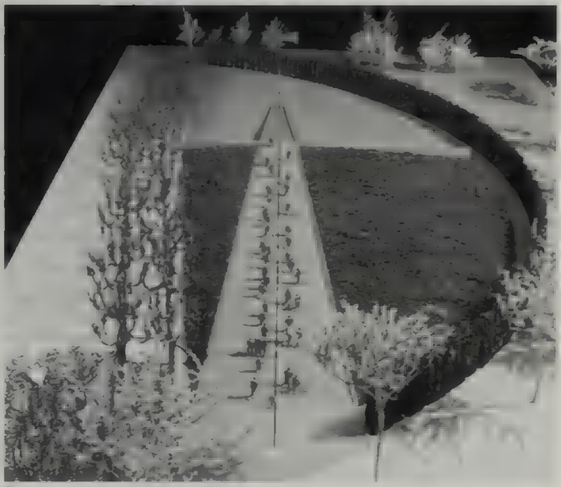
To put the Korean War Veterans Memorial in perspective, let's consider the painful evolution of another project—the FDR Memorial. Four decades after Congress set up the Franklin Delano Roosevelt Memorial Commission, construction finally began in 1994 in West Potomac Park, near the Tidal Basin. A detailed chronology of this design saga requires several pages, but highlights include: a 1960 design competition won by Pedersen & Tilney; years of design revisions with several cycles of approval and rejection between 1961 and 1965; selection of Marcel Breuer to develop a new design, accepted by the FDR Memorial Commission but rejected in 1967 by the Commission of Fine Arts; dormancy during the Vietnam War; selection in 1974 of landscape architect Lawrence Halprin to design the memorial as part of a 27-acre park, with the design—including sculptures—developed and approved between 1975 and 1978; design modified to significantly reduce costs, approved in 1979; in 1981, resolutions introduced in Congress authorizing construction of the memorial; further design by Halprin to obtain detailed cost estimates in 1984, after which the project again lay dormant until 1988, when Rep. Claude Pepper, the new Memorial Commission chairman, reactivated the project; still more design changes approved in 1990; at last, a 1991 groundbreaking ceremony, followed by a $10-million capital campaign to augment the $42 million in funds provided by Congress, with construction finally starting in 1994.

A monument to overdesign

The ultimate FDR Memorial irony is that Roosevelt himself asked that no such memorial be built, a reflection of his discomfort with idolization and his concerns that grandiose memorials can exaggerate, obscure, or oversimplify history. Unfortunately, his wishes were ignored, and his reasoning may be vindicated. The FDR Memorial, costing over $50 million, is a monument to overdesign, a landscape predicated on the notion that bigger must be better.

The memorial expropriates far too much public land—nearly eight acres of West Potomac Park. Entailing an 800-ft-long procession through four outdoor garden rooms, it is replete with landscaping and meandering rectilinear walls, numerous water features, sculptures by a half dozen artists, and extensive narrative inscriptions and quotations. It's not that a garden couldn't be an appropriate memorial, nor that pieces of Halprin's design aren't attractive. But the size of this sprawling, historically didactic ensemble is excessive, notwithstanding the *(Continued)*

The competition-winning design for the Korean War Veterans Memorial by BL3 (1), the Women in Military Service for America Memorial by Weiss/Manfredi (2) and Lawrence Halprin's FDR Memorial (3, 4)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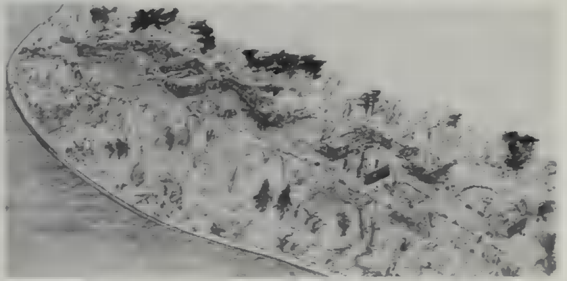
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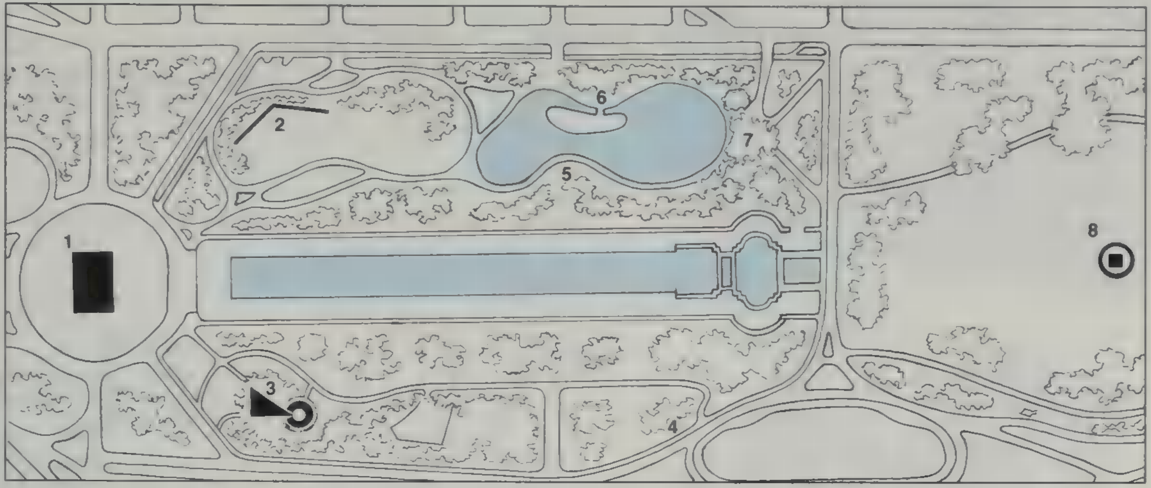


1. Lincoln Memorial
2. Vietnam War Memorial
3. Korean War Memorial
4. D.C. Veterans Memorial
5. Black Revolutionary War Patriots Mem. (approved)
6. Signers of the Declaration of Independence Memorial
7. WW II Memorial (proposed site)
8. Washington Monument

significance of FDR's presidency encompassing the Depression and World War II.

Commemorating this president and those dozen years could be accomplished more forcefully and succinctly, in keeping with FDR's wishes, were the memorial's physical form and energy more concentrated in the Mall landscape.

Further, looking into the future with a perspective that spans centuries instead of decades of history, and considering the finiteness of the Mall, it seems questionable to dedicate so much of that precious landscape to one individual and only 12 years of 20th-century history. How and where will we commemorate the important individuals and events of the 21st, 24th, or 30th century?

More memorials are already in the pipeline, among them the Women in Military Service to America Memorial, for which ground has been broken, an Air Force memorial, a World War II memorial, and a memorial to Dr. Martin Luther King, Jr. Countless others have been proposed, abandoned, or built elsewhere. Can anyone doubt that countless more will be proposed in the future?

Bureaucracy and democracy in action

Why has creating a memorial in Washington become so arduous and contentious? And how can designers preserve the integrity of their original designs, given so complex a process?

Building memorials in Washington is, in fact, symptomatic of what happens today in state, county, and municipal jurisdictions throughout the United States. As architects know all too well, constructing anything in the public domain, be it a memorial or a library or a bus depot, involves more "cooks in the kitchen" than ever before—more governmental and citizen review agencies, more public hearings, more permits, and more contradictory opinions about design. Consequently, the implementation process has become more time-consuming, more expensive, and more likely to yield unfortunate design compromises. This is bureaucracy and democracy in action, the result of a process involving a diverse citizenry armed with diverse points of view. How much easier was the architect's monument-building task in previous centuries when only a single patron had to be courted and satisfied.

Further worsening matters, political correctness can enter the design process, often conflicting directly with esthetic aspirations. Memorial commissioners and other review officials are especially sensitive about memorial constituents—such as veterans and their families—and how the public in general might interpret a memorial's design.

Both explicit and implicit symbolism in commemorative structures embue them with great meaning. Yet since people readily "deconstruct" and find unintended symbolism in works of art, a design with potentially controversial overtones inevitably is challenged. Maya Lin's Vietnam Veterans Memorial—its black-granite walls descending below grade and, to some, suggesting condemnation rather than commemoration—epitomizes a structure inviting negative interpretations. Amazingly, Lin's design changed little from design-competition concept to realization—a tribute to her remarkable tenacity.

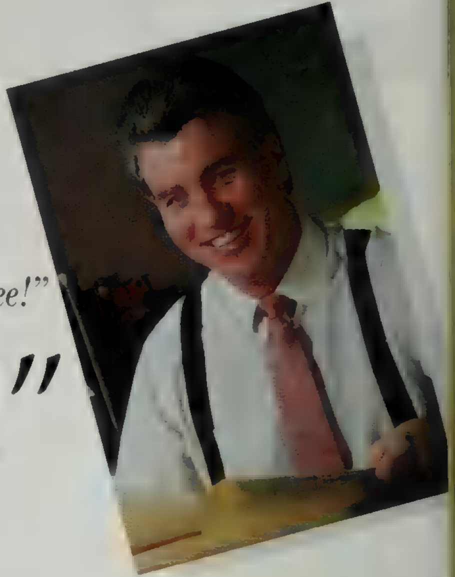
Design competitions are a favorite and seemingly appropriate strategy for designing memorials, but they pose problems. Improperly managed, or without a well-written program and insightful jury, they rarely succeed. And timing is always problematic. Memorial sponsors want a design concept early on to catalyze fund raising. But because construction cannot begin without funds and design approvals in place, years can elapse between the conclusion of a design competition and the beginning of construction. As the FDR Memorial illustrates, much can happen during this interval to affect the design: costs rise, esthetic values shift, public perceptions change. A trendy, winning design may have a short shelf life. What was embraced one year might be rejected a few years later.

Jockeying for position on the Mall

One final question is worth asking. Why has memorial fever seemed to intensify during the closing decades of the 20th century? [See RECORD, October 1995, page 9.] This is a question that clearly preoccupied members of Congress in 1986 when they adopted stricter memorial building criteria. There seems to be rising group consciousness among Americans about their group's special history, their unique experiences and struggles both in war and peace. Moreover, the number of distinct "groups" lobbying for memorial sites is likewise rising. Perhaps it's the approach of a new millenium. Yet this is not really a new phenomenon—memorial building frenzies have followed all major wars, going back to the American Revolution.

America's capital with its extraordinary public landscape will always be the preferred setting for national memorials. But because the Mall is limited in size and, in its present form, less than 100 years old, one can visualize it becoming cluttered with memorials during the next century. What then would remain for the centuries to follow?

Americans must identify and embrace sites in other locales for commemorative structures. Otherwise, an excess of memorials built on or around the Mall will detract from and devalue those that are most sacred, the few that truly deserve to occupy the pantheon. ■



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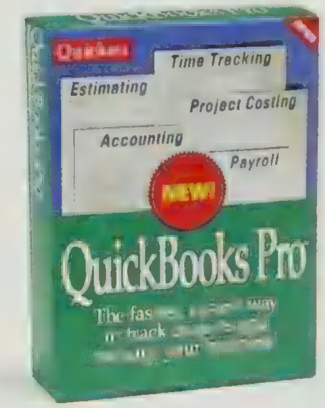

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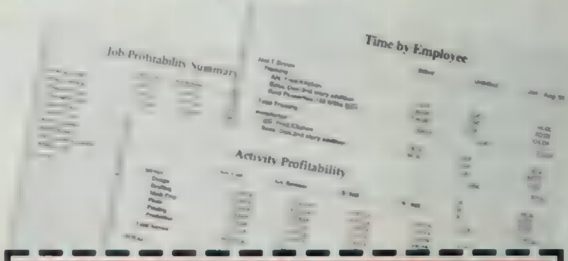
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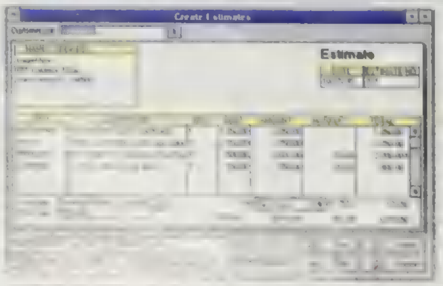

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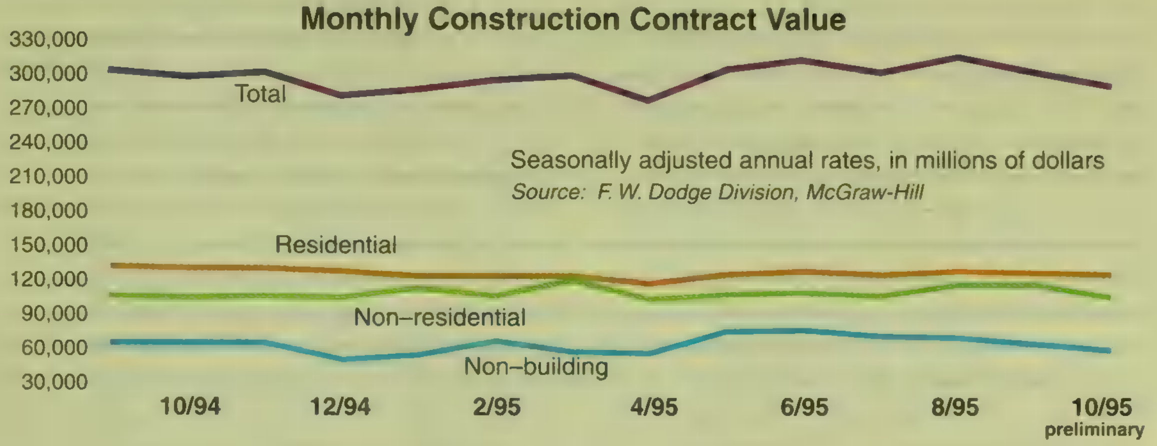
Indicators

Weakening construction in late 1995

Improvement in multi-family housing was not enough to offset overall construction-volume declines in recent months. Retail and warehouse sectors have slackened, reflecting slower sales, but offices—a recent source of growth—also slipped 10 percent last month. Declining contracting for schools, hospitals, and detention facilities caused the institutional sector to fall back 14 percent. In 1996, an interest-rate cut might boost single-family volume. Federal budget decisions will most affect volatile non-building construction. ■



Monthly Construction Contract Value

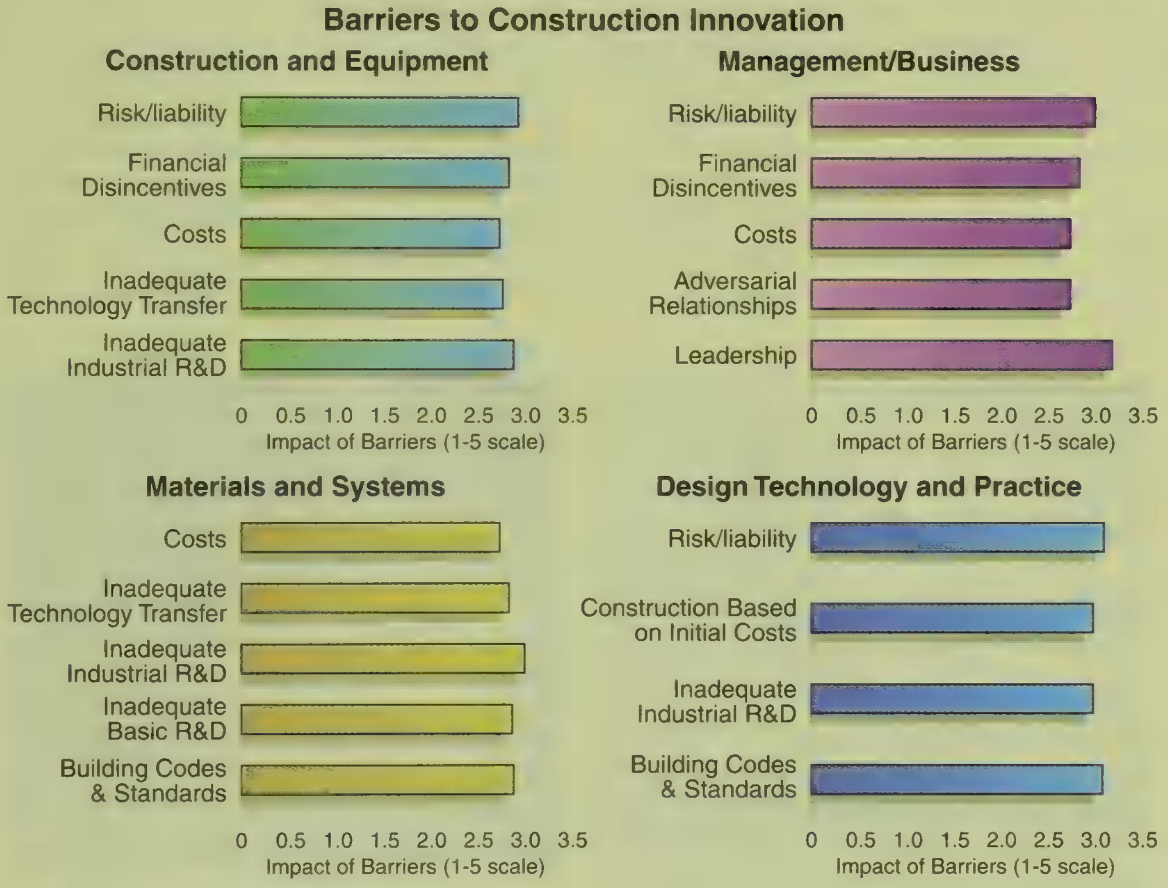
Seasonally adjusted annual rates, in millions of dollars

Source: F. W. Dodge Division, McGraw-Hill

Needed: Lower risks, more R&D

A survey of construction-industry professionals from more than 20 countries revealed a number of trends that bar innovation in construction. Recurring items are risk/liability and R&D-related concerns, including problems with technology transfer. The pressures of project construction time were seen as important. Leadership was flagged in the management area. Respondents were particularly concerned about project delivery.

Building codes and standards were thought impediments to improving materials and systems and design technology. Respondents were also asked about public-policy barriers. They cited environmental regulations, lack of leadership, and adversarial relationships as chief barriers. Trends respondents thought important, though not necessarily barriers, include computers, globalization, and environmental consciousness. Findings form the basis for a symposium, "Engineering and Construction for Sustainable Development in the 21st Century," Washington, D.C., February 4-8. Information: 202/842-0555; 202/789-2943 (fax). ■



Barriers to Construction Innovation

Construction and Equipment

Management/Business

Materials and Systems

Design Technology and Practice

Source: Civil Engineering Research Foundation

Short Takes

- **Fee incentives for green design:** If design team and client sign on to a rigorous design and review process, the Green Design Services division of the Rocky Mountain Institute will help defray—through grants of up to $20,000 and other support—the extra effort needed to design highly energy-efficient projects. RMI is seeking four yet-to-be-de-signed real-estate projects (minimum 50,000 sq ft) to show how more intense design anal-ysis will pay huge dividends to owners and the environment. Information: Gunnar Hubbard, 970/927-4510 (fax), ghubbard@rmi.org (e-mail).
- **GreenClips:** An on-line summary of current articles on sustainable design, the service helps readers keep up. It's free and covers 60 publications, from newsletters to major newspapers. You need America Online: 415/928-7941, greenclips@aol.com
- **PB pipe settlement:** Hoechst Celanese Corp. and Shell Oil Co. agreed in November to create a $950-million fund to settle claims arising from polybutylene pipe installed in millions of homes into the 80's. The piping proved intolerant to chlorine in water. ■

The Market's Buying Green

By Elena Marcheso Moreno

Building green is becoming big business, particularly for the housing industry where individual homeowners have the opportunity to make choices. Given the vast size of the residential-building market, the potential is staggering. In one year the energy demands of a single home release tons of CO_2 into the atmosphere, according to Elena Cotton Westbrook, an environmental consultant in Garland, Tex. "When you consider the capital resources, transportation, delivery, and related systems required to produce this much energy, you can see that reducing home-energy needs will create significant environmental benefits across the spectrum," says Westbrook, who, along with her mechanical-engineer husband, Paul Westbrook, is building an eco-house.

Elena Marcheso Moreno, based in McLean, Va., writes on architecture and architectural technology.

Energy is just one element of ecologically sensitive design, but builders and architects across the nation are jumping onto the bandwagon. For the most part, these houses offer real improvement over conventionally designed and built houses. Besides using less energy, they incorporate recycled or re-used materials, and if not bow, at least nod to the native landscape. It's important that significant segments of the housing industry are promoting the premise that a sustainable society is not only possible, but necessary. And most Americans are willing to wear the green hat of an environmentalist if they feel they can afford it.

But it's not all about making the earth a better place. The indoor-air-quality problems of existing construction practice are also driving the eco-home movement. As synthetic furnishings, fabrics, chemicals, finishes, and materials have become more prevalent, toxic outgassing of common building materials has taken on a higher profile, exacerbated by energy-conserving tight construction when provision of fresh air isn't handled properly.

Models of sustainability

Sponsored by the government agencies, local non-profit groups, manufacturers, and utilities, a number of sustainable-housing demonstration projects are appearing around the country.

Every Canadian province has participated in the Advanced House program being conducted in Canada by CANMET, the research and development arm of Energy, Mines and Resources Canada. With 10 houses built to suit various climates, the program has been recognized for its use of recycled products, energy efficiency, and appeal to the mass suburban market. One house is noteworthy for its treatment of construction site waste. Enermodal Engineering Ltd., Ontario, incorporated such shop-made components as

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It looks like home

The Tamarack Point subdivision, near Colorado Springs, is similar to many green building programs in that it incorporates many alternative products (engineered wood, recycled-plastic carpet) while sticking close to what competitors offer in terms of design and price (1, 2 right). The models are built by Habitat Design and Construction.

Indoor-air-quality issues merited special attention in a Minnesota house for a client with chemical sensitivities, designed by LBH Engineers and Architects (3, 4). After the firm researched products, "the client actually took materials to the doctor and tested each one," says Rick Carter of LBH. "Sometimes we had to construct a sample because it contained a composite material, or something had to be painted and tested."

Tile was used instead of carpet; the detached garage minimizes infiltration of carbon-monoxide; slab-on-grade construction avoided mold-growth from a basement. The architects even provided doors with large glass areas because the client is sensitive to softwoods.

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© Brian Droege/Droege photography

4

Environmental Home Programs showcasing energy-efficiency and ecological-design strategies are sprouting all over the country. Their success certifies green design's market appeal.

precut roof trusses, floor joists, and I-joists for wall studs into the house it designed and built. Many waste products—particularly plastic—were sold to a recycler. Steve Carpenter of Enermodal says construction generated only a trash can full of debris.

The Center for Resourceful Building Technology (CRBT) in Missoula, Mont., has completed its second eco-house, a tiny (965-sq-ft) urban-infill project. This Timber Tech project was designed to be replicated. "We chose resource-efficient and recycled materials that are currently available to show builders and homeowners that they can improve the resource efficiency of their construction right now," says Tracy Mumma, CRBT Research Director. Inspired by an earlier CRBT project, architect Kate S. Warner has completed "a traditional New England house" in Martha's Vineyard, Mass., using alternate materials and energy-efficient construction (below).

The house is not a solar collector

What does it mean to build a green house? First and foremost it means providing more energy-efficiency. How much more depends on the builder and the client.

Nearly all architects and builders legitimately involved in the eco-house movement create energy-conserving homes. It is no longer difficult or risky. People want homes that use less energy and cost less to operate. Builders have the technology readily available—technology that has been around since the 1970s and 1980s when passive solar was aggressively promoted, only to be pushed aside by the public for its unconventional and often unappealing designs.

But passive-solar strategies and their attendant energy-conservation measures are in fact major components of any house that purports to be environmentally sensitive. Careful attention to building orientation, direct heat gain, daylighting, shading, and well-insulated construction all contribute to low energy consumption. The difference now is that most designers create houses that look like houses, not like the result of an aerospace experiment gone wrong.

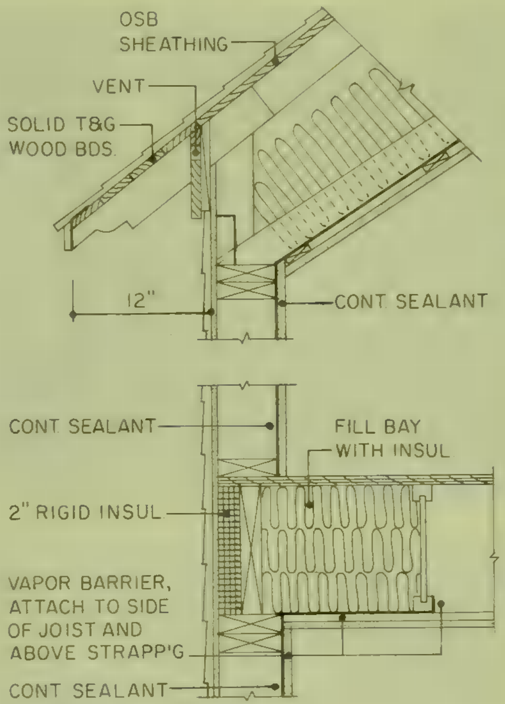
The problems that plagued early passive-solar homes—lack of fresh air and outgassing of materials—are being conquered in today's green buildings through the use of forced fresh-air ventilation (with heat exchangers, where warranted) and other measures that precondition outside air.

The house of green components

While low energy use is a critical factor, it alone does not make a house green. Products and materials that create less environmental impact are also called for. Everything from the use of site-lumber scrap to shredded-plastic Coke bottles are appearing in the eco-house.

Affordable regional style

Dallas builder Barbara Harwood of BBH Enterprises markets "affordable" eco homes. Esperanza del Sol (bottom) comprises two rows of six 1,270-sq-ft houses clustered around a shared green space. Each three-bedroom, two-bath house is insulated (with cellulose) far in excess of Dallas' standard practice. Lumber use was minimized by framing 24-in. o.c. with 2 by 6 studs. Natural ventilation, roof overhangs, and daylighting all contribute to Harwood's confidence that her $79,000 homes won't cost more than $300 a year to heat and cool. She even offers to guarantee it. Architect Kate Warner's educational efforts around ReCraft East (right) focus on the numerous alternative products this traditional-looking house contains—from fly ash in the concrete to salvaged-wood flooring, and beer-barrel stave cabinets.



© Betsy Corsiglia top and bottom

© Barbara Harwood

Not all products are equally green. "The way we look at it, every environmental product and every eco-house advertised is a different shade of green," says architect Greg Franta, of ENSAR Group, Boulder, Colo. A long-time researcher into energy conservation and environmental issues related to buildings, Franta regularly designs green buildings. Even with his expertise, it isn't always easy to decide if one product is better than another. Franta, like many environmental advocates, advises a "cradle to cradle" analysis of products that considers the acquisition of the raw materials; the processing and manufacturing process; the packaging and distribution impacts; the installation, use and maintenance issues; and the potential for disposal, reuse, or recycling.

Unfortunately, this is still not an easy task. Though numerous voluntary and local certification programs exist, there is yet no widely accepted certification system, database, or standard for what makes products green [RECORD, October 1991, pages 36-39], though the Home Energy Rating Systems Council is working on voluntary efficiency guidelines (202/638-3700). Like Franta, Mike Nicklas of Innovative Design, Raleigh, N.C., is an architect who has devoted his practice to designing energy-conserving buildings. He hired an engineer to spend two years in his office researching various building products and materials and rate them in terms of their effect on the environment.

"The problem with our list is that it tends to be subjective," Nicklas says. "We try to get a good picture of the total embodied energy in a new or recycled green product. We weigh the cost compared to other options. But, ultimately, the decision to use a product or not rests with the client." While the price of a few green products is actually lower than conventional ones, others demand a premium, and others become more affordable as the demand for them increases, explains Nicklas. In designing a demonstration house for Arizona Public Utilities, Jones Studios weighed "the quality of support by the company—the product most likely to be readily available in the future and have strong backing from a stable company."

Widely used green products

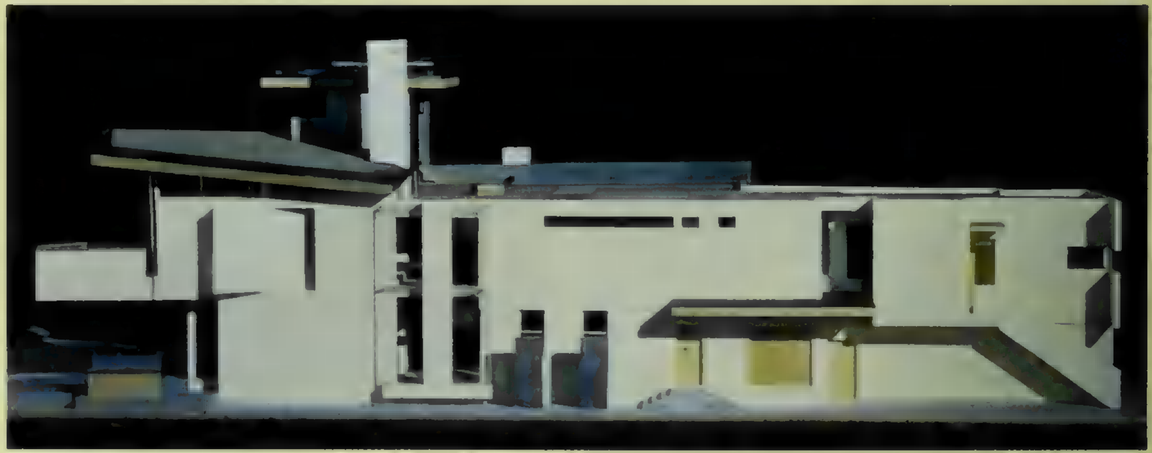
- *Framing:* Eco-houses are moving the home-building industry quickly away from conventional timber (much of it from endangered old-growth forests) to a variety of framing and panel products that use more abundant wood species and incorporate material that was once scrap. Some designers are choosing light-gauge steel framing, which can incorporate considerable recycled content. Both have their pluses and minuses [RECORD, September 1995, pages 36-41].

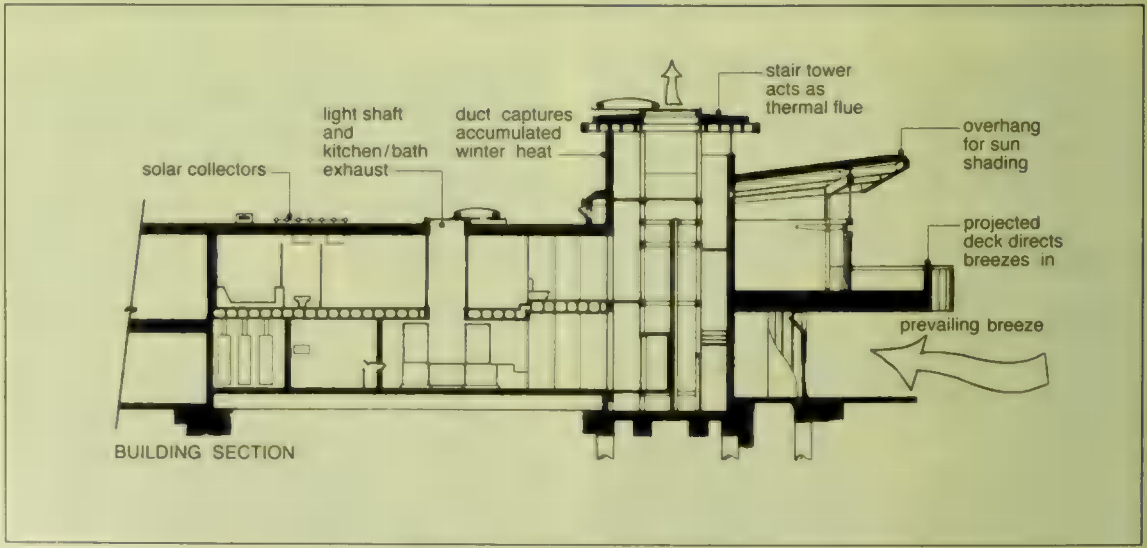
- *Insulation:* One of the most successful products is 100-percent recycled-newspaper

Form follows fresh air

David Hertz, of Syndesis, Santa Monica, Calif., not only developed Syndecrete (a cement-based compound that uses recycled materials as its primary ingredients), he'll use it for various surfaces at the Lehrer house (right). The house also incorporates numerous other environmentally preferable alternative products—from recycled rigid-board insulation to nails with recycled content. Since carpet is avoided, an efficient radiant-heating system is installed in the floors. Low-flow and water-conserving plumbing fixtures are specified.

He uses architectural form to focus prevailing breezes. A tower-like element draws hot air up, exhausting it in the summer and recycling it (through a heat-recovery unit) in the winter. The hvac has an advanced control system that allows more effective zoning of heating and cooling throughout the house.




stair tower acts as thermal flue
light shaft and kitchen/bath exhaust
duct captures accumulated winter heat
solar collectors
overhang for sun shading
projected deck directs breezes in
prevailing breeze
BUILDING SECTION

cellulose insulation. Ground into a paste-like pulp, the cellulose is blown into walls and ceiling spaces. Its manufacture is relatively benign. Indeed, even the ink gets recycled, points out environmental and construction technology consultant David Johnston of What's Working, Boulder, Colo.

Expanded-polystyrene rigid-foam insulation gets high marks from green builders and designers because it doesn't involve ozone-depleting CFCs or even the far superior but still ozone-depleting HCFC blowing agent. [For more on insulation, see RECORD, April 1994, pages 34-35].

▪ *Finishes:* Recycled plastic bags and hardwood fibers collected from furniture waste and chopped-up building pallets are combined in an environmentally friendly decking material, says Johnston. In addition to being resource efficient, it can be softened and reformed. It will outlast lumber used in the same application by a few decades. Carpeting made from recycled PET plastic—the type used for water, soda, and ketchup bottles—has also met with industry-wide approval. More than 100-million yards have been laid in buildings to date, says Johnston. "It is more stain-resistant than nylon and wears better."

Perhaps the most readily embraced green building product in housing has been low-VOC paints. When first introduced, low-VOC paints cost upwards of $30 per gallon. But once competition entered the market, prices were driven down. It is selling in some states for about $17 per gal. to the trade. New no-VOC paints are just entering the market.

Alternative products are being investigated or developed by manufacturers of almost every type of building material and finish. One of the most encouraging aspects of the push toward greener buildings is that a number of architects are experimenting with materials development. David Hertz of Syndesis, Santa Monica, Calif., developed Syndecrete, a cement-based compound that uses recycled materials as its primary ingredients (opposite).

Despite the availability of increasingly reliable green products, Johnston says that there's too much broad-brushed, marketing-driven green-washing by too many in the homebuilding industry. "A lot of builders will put up a house with only one-half air change per hour, bad or non-existent energy conservation, and materials that outgas toxins, yet incorporate low-VOC paint and feel justified in calling it environmentally responsive or green. The problem for the whole industry is that home buyers often don't know what it is they don't know."

In response, Johnston worked with the Colorado Home Builders Association to establish the "Green Builders Certification"

Considering climate and landscape

The showcase house Jones Studio designed for Arizona Public Service (an electrical utility) goes well beyond those eco-homes that merely substitute products within a conventional envelope. It's oriented so that thick masonry walls will absorb Phoenix's fierce direct thermal gain. (They are insulated with polyurethane foamed without CFCs.) Expressive overhangs catch breezes and shade the interior from direct sun, while permitting useful daylight (kitchen and "great" room with den beyond—2).

Through such techniques, reliance on energy from fossil fuels is reduced far beyond the norm. The building envelope saves 30 percent of the energy used in a typical new energy-efficient house, and is insulated far in excess of standard practice. The number of windows on east-west exposures was minimized to enhance energy efficiency; north- and south-facing windows are grouped to provide plenty of daylight and views. Ecological strategies extend to the outside. Natural desert plants were used to reduce landscape water needs, and subsurface irrigation reduces loss of water by evaporation. Rainwater combined with household gray water is collected for all landscape watering.

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© Scott Zimmerman photos this page

program—one of a number of local certification programs that have recently developed.

IAQ vs energy efficiency

If we learned nothing else from earlier waves of environmental and energy-conserving design, it's that an approach that simply layers green concepts or energy conservation onto conventional techniques can have unintended consequences. The tightness of construction brought on by 70's energy conservation is in part blamed for the indoor-air quality problems of the 80's. Turning from wood studs to metal, warns Jim White of the Canada Mortgage and Housing Corporation, Ottawa, can cause mold growth, for example. Writing in *Environmental Building News*, he claims the thermal bridge created by a steel stud not fully enclosed by insulation can create cold spots where high humidity from kitchens or bathrooms can condense, encouraging mold growth within just a few months. In hot and humid regions, mold grows within improperly designed walls when air-conditioned rooms draw in outside air and airborne moisture condenses within the wall.

With most Americans spending up to 90 percent of their day inside their homes or work places, a focus of eco-home design has become the condition of the indoor environment. Rick Carter, of LBH Engineers and Architects, Minneapolis, designed an eco-house for a client with multiple chemical sensitivities. Although it had to be tailored to the specific clients' sensitivities (page **014a**), many of the strategies are finding their way into the broader market.

Carter also designed the Minneapolis American Lung Association's Health House, which is concerned with the increasing prevalence of asthma, which it links to indoor-air quality. To eliminate pollutants, LBH minimized materials that offgas toxics, including paint and carpet. It isolates pollution sources by, for example, separating the garage from the house and wrapping medium-density fiberboard in cabinets with plastic laminate. The house is mechanically ventilated using 100-percent outside air (heat exchangers capture heat and cooling from waste air). Still, it suffers from its location amidst a suburban development. Original landscape plans called for native plantings, but lost out to the developer's standard sod and imported trees.

Looking at the bigger picture

The limitations that Carter's site imposed are typical of the problems many programs suffer—the inability to look at issues at a scale larger than a single house. Yet a more holistic strategy, taking on site and community-planning issues, is key to environmental sustainability.

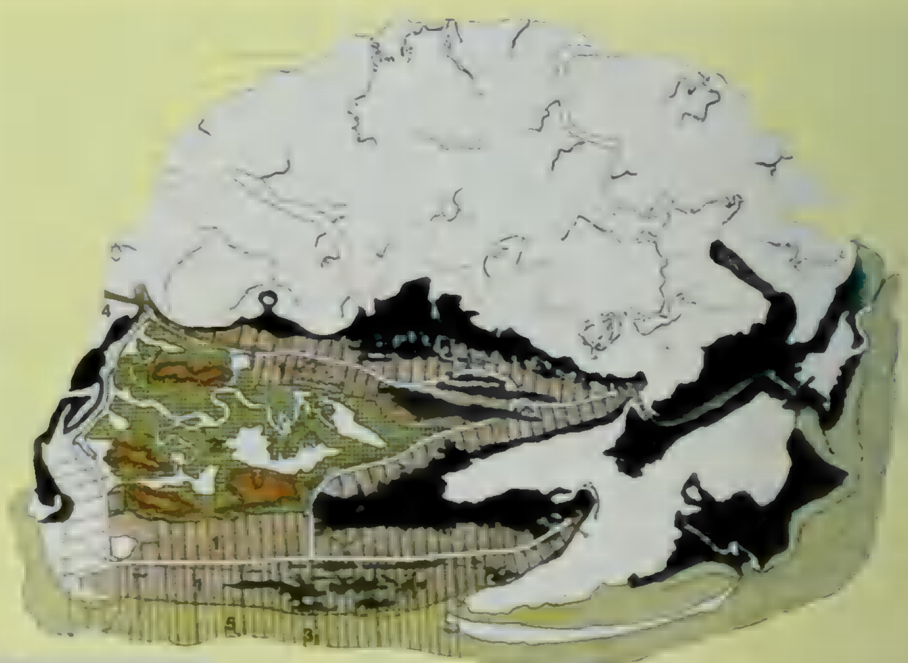
One project that takes a broader view is the Arizona Public Service Company Environmental Showcase Home in Phoenix, which

An environmental island

Charged with minimizing environmental impact at DeWees Island, S.C., Burt Hill Kosar Rittelmann limited development to 150 homes(right) and banished petroleum-fueled cars in favor of electric golf carts (no golf course is allowed, though). Sand paths replace roads.

All house designs must be approved by an architectural review board, which encourages regional architectural devices such as wide overhangs and wrap-around porches. Structures are mounted on pilings, reducing impact on flora and fauna, and permitting hurricane-driven storm surges to pass harmlessly underneath. Only five percent of the island can be built upon, and housing must be clustered in the maritime forest on the southwest corner of the island (lower left in plan).

Conservation of water is encouraged, fertilizers discouraged, and use of recycled building products required. The Reeves residence, a house that meets all of these criteria, was recently completed by North Carolina architect Design Harmony (opposite left).



1. *Buildable lots*
2. *Wildlife management area*
3. *Beach conservation zone*
4. *Dock*
5. *Boardwalk and dune crossing*

was co-sponsored by EPA, Arizona Department of Environmental Quality, and the Home Builders Association of Central Arizona. Designed by Phoenix architect Jones Studio, the project uses eco components like engineered wood and metal studs (on interior walls). But it also uses shading and orientation, daylighting and landscape concepts (previous pages).

From site planning to town planning

Some communities are giving environmental mitigation high priority, attempting to counteract the effects of suburban life built around the use of the automobile. "Pedestrian pocket" and other traditional-development strategies that emphasize transit use are already well known. Florida now encourages compact development to reduce impacts on the state's endangered Everglades. Burt Hill Kosar Rittelmann architects, Washington D.C., have gone so far as to banish the auto in the master plan the firm developed for DeWees Island, S.C., a private, oceanfront retreat dedicated to environmental preservation (below and opposite).

Many Americans seek a rural lifestyle, but the typical large-lot zoning in resort and exurban areas encourages polluting car trips and fragments the natural landscape. Environmental advocates say such broken-up natural areas are less ecologically viable and more vulnerable to pests.

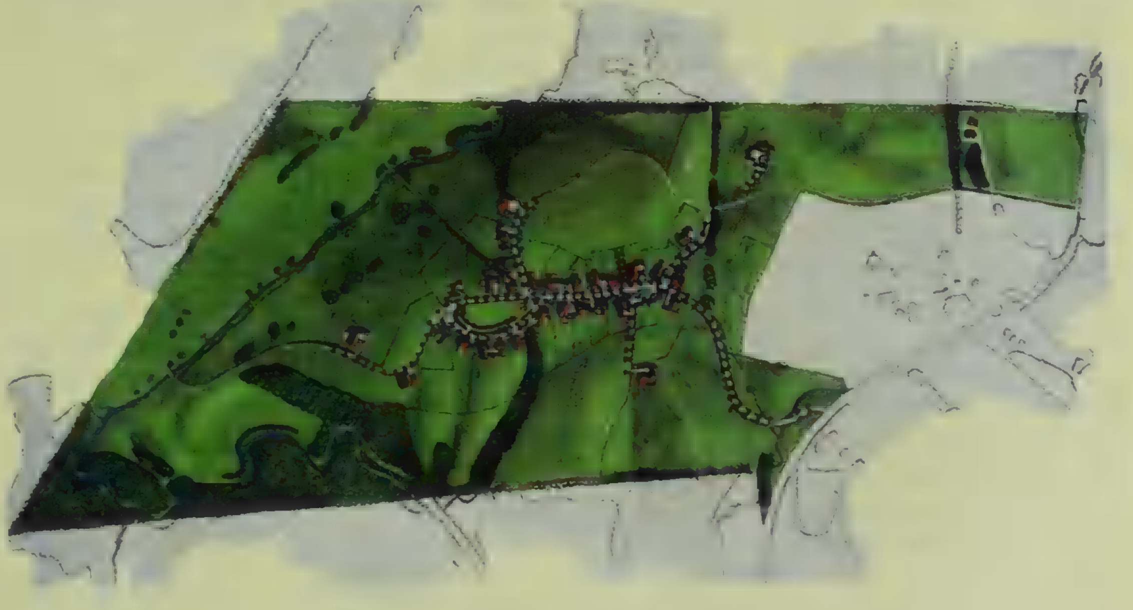
Loudon County, Va., decided to follow the advice of architect and planner Richard Calderon, Leesburg, Va., to help preserve the rural quality of its community. As an alternative to its three-acre lot zoning, the county has approved a plan that allows hamlet developments. Houses in these hamlets can be closely clustered on less than 20 percent of the site, leaving the rest of the land in its natural state. They also encourage a more neighborly form of country living. So encouraging is Loudon County's environmental policy, that several developers are constructing eco-villages. Franta of ENSAR is designing one hamlet of environmentally oriented houses; Bethesda, Md.-based Hillier Reed and Neal Payton, Washington, D.C., are doing another (below) that includes narrower-than-standard streets to slow traffic.

Defining and assessing the environmental considerations that make a house green remain complex. The key, say Alex Wilson and Nadav Malin, editors of *Environmental Building News*, is to set priorities (RR1, Box 161, Brattleboro, VT 05301, 802/257-7300). Their October 1995 issue offers a checklist far less formidable for the smaller firm than the bible of sustainability, AIA's *Environmental Resource Guide* (now published and updated by John Wiley & Sons, Inc., 800/225-5945). See Manufacturers Resources in this issue for additional information about the projects mentioned in this story. ■

An environmental hamlet

Sunnyslope, in Loudon County, Va., is a "hamlet" plan posed as an alternative to the kind of large-lot development that encourages traffic problems in rural and exurban areas. Bill Reed of Hillier Reed, Bethesda, Md., and Neal Payton, Washington, D.C., have clustered 30 homes (which follow their own environmental guidelines), leaving much of the site's 150 acres unencumbered.

Following traditional neighborhood development precedents, the hamlet's streets are designed more like country lanes. A community building and a town green offer a civic focus.



Can Architecture and Politics Mix?

As government building programs shrink, it's worth considering how architects can better use the political process—and what the process says about architects and their place in the community.

It's an election year. While these four words rightly evoke groans from those not addicted to the endless campaigning and information-free discourse endemic to political life today, there's no better time to consider the role architects can, do, and should play in the political process. Further, this political season begins just one year after a cadre of candidates was chosen in states and Congress pledged to move political power to the states.

Most of the attention-getting debate this year has been at the national level, as the budget, regulations, and such massive programs as Medicare and welfare have come under intense scrutiny. And the big Capitol Hill battles have pushed aside for now issues that most affect building design (tort reform, qualifications-based selection). Bricks-and-mortar building programs have been substantially cut, however [RECORD, November 1995, page 33]. Even if, as many in the new Congress advocate, programs are eliminated and others largely shift to states, government still significantly determines the circumstances under which buildings are designed and built. Can design professionals better use the political process to realize their goals? Perhaps more fundamentally, is the shift from national to local and the move to greater privatization good for architects?

"Architects' interests don't really fall along party lines," observes Nancy Somerville, vice president, state and local government affairs at the AIA. "What does follow party lines is the anti-regulatory environment and the pro-business environment. These agendas mean there's a greater likelihood of tort reform but, on the other hand, a resistance to uniform building codes and more efforts to consolidate or defund agencies like state licensing boards." Although much of the political drama is in Washington, D.C., "Most legislation where rubber hits the road in terms of architects' income," Somerville says, "takes place at the state level."

Agenda: *Our continuing series on stretching the boundaries of what architects do takes a strategic look at the opportunities and barriers in the political arena. Recent installments have considered supply and demand for services [illegible]*

What government is doing to design

Somerville and Daniel Gross, AIA program director, state and local government affairs, outline these key challenges:

- *Procurement:* As many as 14 states will face challenges to qualifications-based consultant selection criteria. Also, although AIA policy accepts design/build for appropriate projects, AIA is challenging design/build procurement when it is cost-driven, not qualifications-driven, and when a high level of uncompensated work is required for selection. Some states, "unhappy with the level of litigation on projects," but also "not managing the process well," says Somerville, see alternate-delivery methods as a panacea.

- *Professional licensing:* The deregulatory mood, says Somerville, has spurred a "large-scale attack on the regulation of professions." She says critics claim "that most state licensing exists for protection of the regulated and not the good of society." Though she feels that architects will have to fight battles on this front (10 states face "sunset" of licensing laws in 1996), she doesn't see the licensing of architects as threatened. Indeed, 12 states may *add* a licensing category—through certification or title laws for interior designers.

The definition of architectural practice and engineering's overlap "top the list of licensing-law concerns"—Nancy Somerville

The definition of architectural practice (where, typically, engineers seek authority to design a wider range of building types) and the overlap of engineering with architecture "top the list of licensing-law concerns" in the states, says Somerville [RECORD, July 1995, page 27].

- *Liability and tort reform:* Professionals are seeking "certificate of merit" legislation in many states, which would require early independent examination of whether suits against architects (among others) have merit. Some states have exposed architects and engineers to liability for third-party suits. This permits injured workers—prevented from suing contractors by workers' compensation statutes—to seek recompense from the design team. Other states have relieved architects from such liability. Tort reforms sought by A/Es include caps on punitive damages and on joint-and-several liability. The latter can make the "deep pockets" architect (or the firm's insurer) liable for damages far in excess of proven culpability.

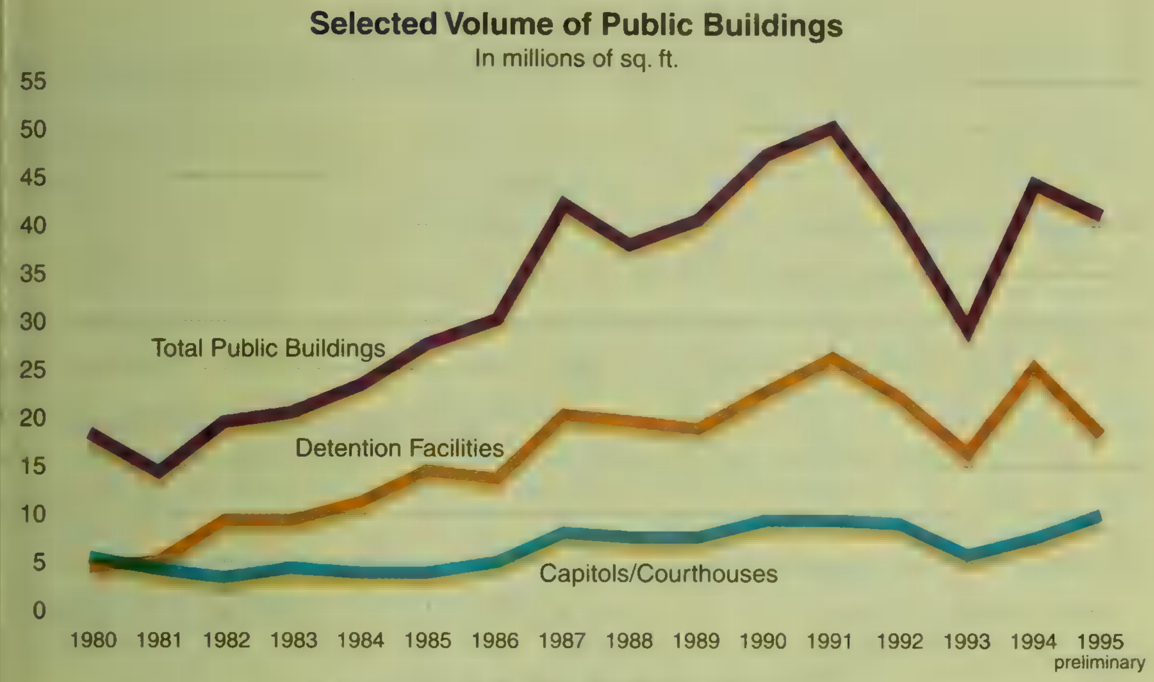
Selling architecture on Capitol Hill

In Washington, the budget-cutting vogue brings bad news for architects, especially for firms that have been doing big GSA courthouse and office-building projects. It's not only GSA budgets that have been cut, though. Assisted-housing programs at HUD, embassies, R&D (which supports much campus research-lab construction), transit and passenger rail, and Veterans Administration hospitals have all been slashed. Of those categories where spending is rising, only slightly higher funds for airports and dollars for military-housing improvements are likely to directly benefit architects.

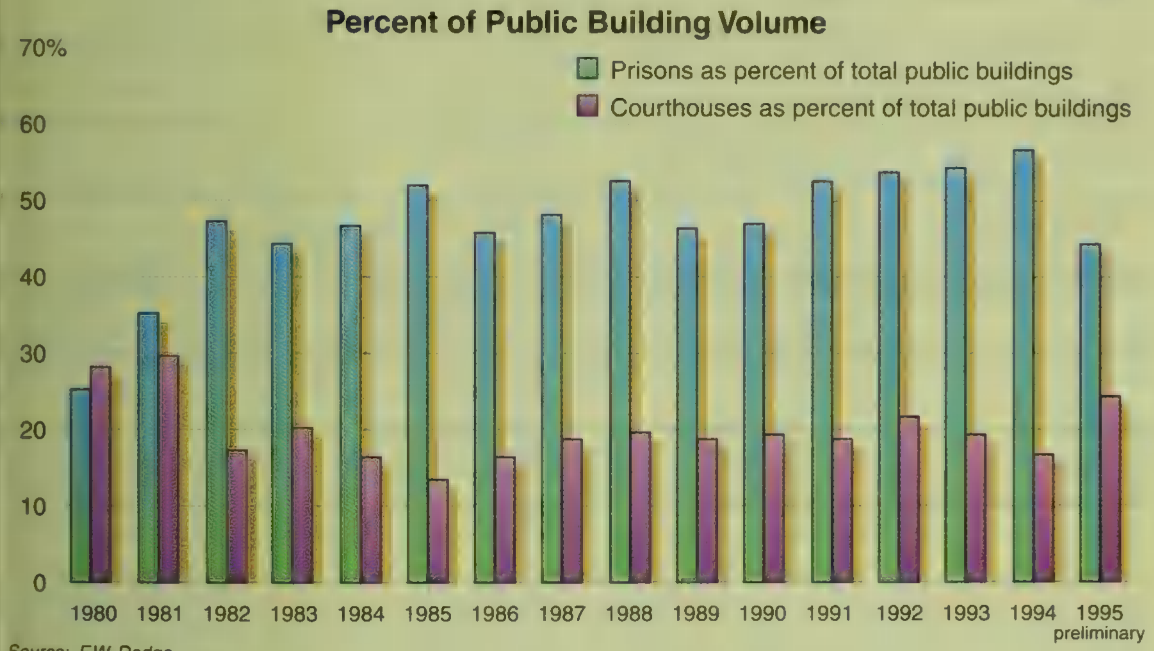
Should architects storm Congress' ramparts? It's not AIA's style. "We play with the deck we're dealt," says Al Eisenberg, director, federal legislative affairs at AIA. Don't mount a monumental (and probably losing) battle to restore cuts in building programs, he says. "Congress believes that the tax code is the way to get things done rather than categoric grants or block grants. If the arena to play in is the tax code, we'll play in that arena." Thus AIA is vigorously defending the Low Income Housing Tax Credit and tax credits for historic preservation (both of which will likely remain intact), and promoting the Commercial Revitalization Tax Act targeted at distressed urban areas and supporting a tax credit for those who restore historic homes (both an uphill fight).

Clout through community design

Architects have influence in Congress, claims Eisenberg, because they help to make "livable communities." That architects are


Selected Volume of Public Buildings

In millions of sq. ft.


Percent of Public Building Volume

Source: F.W. Dodge

Government's changing priorities: *Detention facilities—increasingly built using stock plans or design/build procurement that emphasizes delivery over design—may be this era's emblematic—and publicly invisible—building type. At the same time the supposed lavishness of publicly welcoming courthouses— an important building type for architects—are an easy target for headline-seeking politicians. Also, if federal cuts create new burdens for states and cities, locally funded schools and libraries, which have been consistently strong types recently, could be hit..*

able to facilitate public participation as well as build projects that tangibly benefit towns and cities is crucial, because "all kinds of legislation flows to communities." He cites, for example, "the transportation enhancements" set-aside from the surface transportation program—part of what is popularly known as ISTEA [RECORD, June 1994, pages 86-89].

The community-oriented focus is also seen as critical by Harvey Gantt, of Gantt Huberman architects in Charlotte, N.C. Gantt, perhaps America's most prominent architect-politician says architects have much to offer, especially locally: "Architects have an ability to visualize; they can understand the physical impact of social decisions. When I served on the city council and as mayor of Charlotte, I thought I could visualize impact of a highway more readily than a colleague who is a sales person or a lawyer." (Gantt has also served as Charlotte's mayor pro-tem.)

That architects can create a new vision for communities is also key to what Eisenberg says are the excellent prospects for one little-publicized legislative initiative. The work of architects, planners, engineers, and landscape architects in Hurricane Andrew, in Florida; the giant 1993 floods in the Midwest; and the recent earthquakes and wildfires in California has convinced many in Congress that disaster-mitigation planning is critical in avoiding gigantic losses [RECORD, June 1994, pages 38-41]. In return for offering government backing to a federally chartered private insurance corporation, at-risk states will have to make comprehensive disaster-mitigation plans and put in place new or upgraded zoning and codes. Both the planning process and the construction upgrading involved should generate substantial work for architects. That the bill has 220 House co-sponsors is important, says Eisenberg, because "this is a Congress that is not about telling states what to do."

Architect as local peace-maker

Many architects see expanded opportunities if the shift to local government and privatization continues. They agree with proponents of small government that the lower taxes permitted by less government translate into more money deployed more efficiently by the private sector. Indeed, there has been a long-term shift of U.S. architects' clients from government (still the dominant patron in much of Europe) to the private sector.

Removing federal-government regulatory burdens may not change the life of the average architect much, though. Architects frequently complain that the thicket of *local* regulations, design-review, and community-review boards through which even private-sector projects must pass too often saps innovation—let alone excellence. Clients also often see such activities as incidental and expensive barriers to the main event—designing buildings.

Dealing with community needs shouldn't be incidental, argues Dana Cuff, associate professor at UCLA's Department of Architecture and Planning. She's made a study of what she calls "contentious development," and observes that inevitably "architecture ends up in the political realm, when you talk about how architecture adds up to a city." Many architects can bring highly developed design, graphics, and communication skills to bear in community planning and design—skills developers, planners, and real-estate professionals often lack.

Cuff looked at Riverside South, a gigantic urban development in New York City first proposed by developer Donald Trump as Television City—a series of dizzyingly huge towers that attracted fierce community opposition. Architects, some of them working pro bono, collaborated with opponents, and, ultimately, Trump's team. The scheme approved was smaller, and vastly more public-oriented. And Trump learned that a less adversarial approach can work.

"You can say New York is much better off in terms of quality of life for having had this be a 10-year, political, drawn-out process," observes Cuff. "No developer would ever do this if not pressured to." While joining the opposition may not win plaudits from potential clients, Cuff feels architects' validity within the community is too often threatened because "people feel let down by architects *and* developers." She sees [illegible] opportunity for architects able to help [illegible] projects through difficult con[illegible] review procedures (though getting [illegible] the effort involved remains a hurdle). She argues, "Architects are the kind of professionals that can work through—competently and with a vision—complex problems that have both physical and political dimensions."

City builders vs privatized packagers

The tensions that arise from the level of community consultation required in many jurisdictions reflect themes in larger political debates. When advocates for small-government gained momentum in the 1980s, for example, they claimed that too many architects clung to an outmoded big-government role as community master builder imposing a personal-taste agenda on the public. Then, as architects moved away from urban design and low-income housing to lushly funded museum projects and glitzy edge-city mega-developments, community advocates said that the most prominent practitioners had abdicated their professional authority, and deserved to be considered mere packagers and stylists, pandering to the egos of developers and companies at the public's expense.

> *AIA's Eisenberg fears a "rush to the bottom" that makes it increasinlgy difficult "to make people understand what architecture does."*

This quandary for architects isn't going away; indeed, such arguments may become more polarized, and architects may find it more difficult to have a broad role in shaping communities while still realizing the needs and aspirations of those paying the bills. Consider two scenarios: if government is merely localized, rather than privatized on a large scale, architects can continue to help government agencies create genuinely public places. But when government is privatized, then private entities, however public-spirited, become the clients, making the relationship between the architect and the public one more step removed. When an architect works for a developer hired to build public schools, for example, the developer sets the priorities the architect must address rather than an agency or the community. While a privatized entity can offer much more efficient management and procurement, it may not feel charged to do what government might do, such as look to locate a public facility in a neighborhood where it can catalyze other development.

Can architecture survive expediency?

It is also worth considering whether the extent to which government uses architecture reflects on the profession. In FDR's era, for example, architects were involved in work ranging from public hospitals to park structures to bridges—even the great Hoover Dam. Though public works from that era remain widely admired, today's no-frills approach has made the multi-lane freeway running in a trench of precast-concrete sound barriers the primary experience of the public realm. One could argue that the sorry nature of much public work today reflects people's attitude toward government, not architecture. But we shouldn't dismiss a more pessimistic conclusion—that people no longer see design as a means of representing their community's or their nation's aspirations. Do we need government architecture (which is supposed to represent us all) to help validate the profession in the eyes of the public?

Gantt, on the other hand, says the perception of public design "goes up and down with the community. Architects should be focused on quality of life," he continues. "We can influence what we're surrounded by: how you reinforce neighborhoods, how you keep downtowns from being ghost towns after dark." The more the public recognizes architects' positive contribution to "what it takes to produce that intangible—a city that feels good to people," he says, the more the community will ask architects to do.

Gantt urges architects to testify in front of planning committees, to be involved in charettes or with community groups. "When I sat on major decisions on how Charlotte's downtown was going to develop or major infrastructure developments, developers, bankers, and other people would be there,

Architecture in the Political Arena

Practice Issues

Issue		Explanation	Outlook
Procurement	Qualifications-based selection	Challenges in 14 states	Protected for now at federal level; mixed outlook in states
	Alternative project delivery	Use of construction managers or design/builders in lieu of architects	States that have tried increasingly recognize as not a panacea
	Stock school plans	Save money by reducing fees	Several states looking at
Professional licensing	Licensing laws	10 states face sunset of licensing laws; challenged as protecting jobs not society	Serious threat to licensure not expected
	Definition of practice	Permit engineers to design wider range of building types or overlap of engineering and architecture	"Tops the list of licensing-law concerns," according to AIA
	Interior designers	Certification and title laws	Not the hot-button issue it once was
Liability and tort reform	Certificates of merit	Reduce frivolous suits by early determination of merit	Tort reform delayed at federal level; outlook improved in states
	Joint-and-several liability	Injured party allowed to seek damages from "deep pockets" architect (or firm's insurer) far in excess of proven culpability	Elimination is high priority
	Third-party suits	Injured worker—prevented from suing contractor—sues design firm	Mixed; some states have amended workers compensation laws to eliminate; others have widened liability of architects
	Punitive damage caps	Reduces architect liability	Same as other tort reforms

The Work Architects Do

Issue		Explanation	Outlook
Building programs		Direct government grants for construction	Poor outlook at federal level; better outlook at state level for popular types like detention, schools, libraries
Historic preservation	Regulations	Targeted as excesssive or unconstitutional uncompensated "takings" by government	Significant short-term threat, but public support for preservation remains strong
	Tax credit	Move to restore passive-loss element of, which would increase value; possible loosening of requirements	Passive-loss could founder on budget-balancing needs; agency cuts could permit sub par restorations
	Heritage areas	Congress rationalizing the definition of broad regions of historic significance	Improving; seen as low-cost economic-revitalization tool
Community revitalization tax credit		New tax credit would encourage business expansion in distressed neighborhoods	Has yet to build momentum
Housing	Low-income housing tax credit	Supports 40 percent of multi-family building; only significant, viable assisted-housing program	Opponents want to eliminate to help balance budget. Appears to have survived in '96 budget
ADA		Some complaints that disability requirements too onerous	Changes in law are highly unlikely
Disaster mitigation		Pre- and post-disaster planning involves architects in avoiding disasters' worst consequences	Pushed by insurers as money-saving, prospects are rapidly improving

but no architects were there talking about appropriateness. Architects are not even thought about in that light." In public debates, Gantt says, "No one thinks twice about an up-and-coming lawyer appointed to some board. An architect is a rarity, though, and there's no reason for that. It's great to be thought a nice guy who builds buildings, but in order to get clout one has to get one's hands quote dirty in the arena of politics."

The defensive nature of many of the battles architects fight—fee bidding; the clients, engineers, and builders that think architectural design is at best an add-on—may be inevitable in an ever-more competitive age, or it may be evidence of a continued devaluation in status. Certainly in today's political environment, where first cost is the chief value, architecture is targeted. AIA's Eisenberg, like most architects, argues for the community values that are represented through a selection process that focuses on design excellence and by construction that uses stone or wood rather than drywall and carpet in an important public place like a courthouse. In pandering to those who claim all government spending is waste, however, politicians regularly pick on the "lavishness" of materials that are completely justifiable in life-cycle or other terms. In such an atmosphere, only timid design makes it through.

Eisenberg, for one, sees the "devolution" of national standards and programs as "a rush to the bottom," where local expediency precludes solutions to national problems. He sees it increasingly difficult "to make people understand what architecture does."

Gantt says the purely cost-driven approach can be defused: "I think architects in places of prominence can make some solid arguments about the appropriateness of architecture and its impact on our lives. And they can win an argument on that level if costs and taxes are not the overriding concern in the community." By being consistently involved in issues of interest to the community, architects "will have an audience who will listen," Gantt says, when they try to make a case for a genuinely civic architecture over a purely low-cost one. Gantt is making his own case by running for the U.S. Senate in 1996. *James S. Russell*

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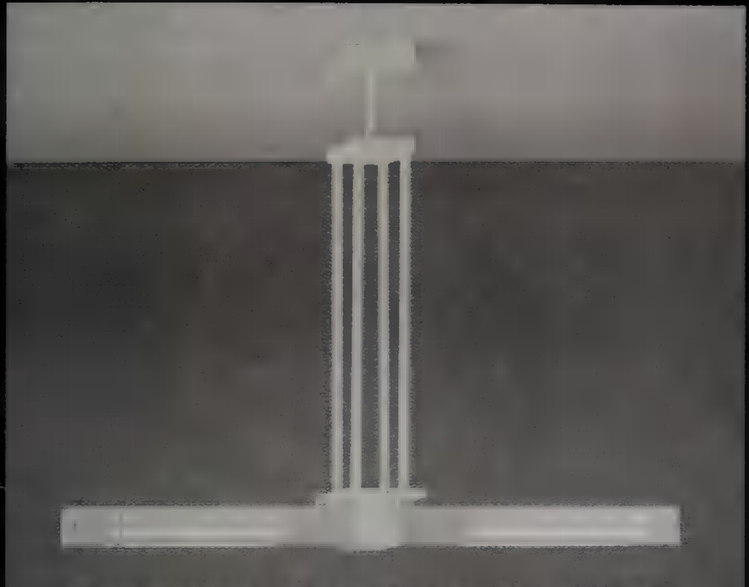

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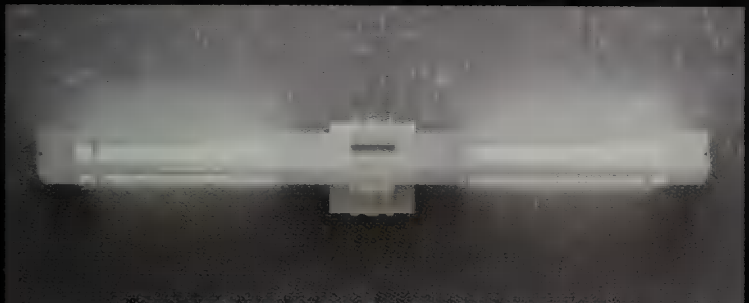

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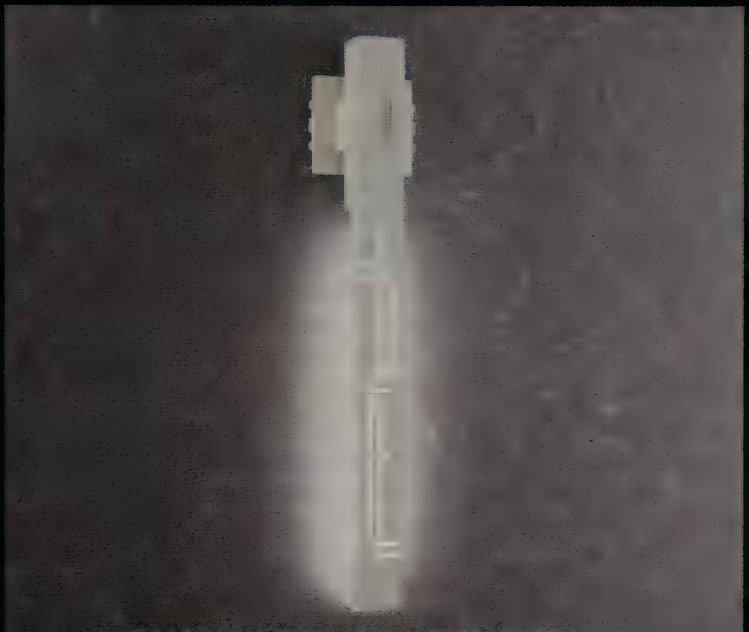

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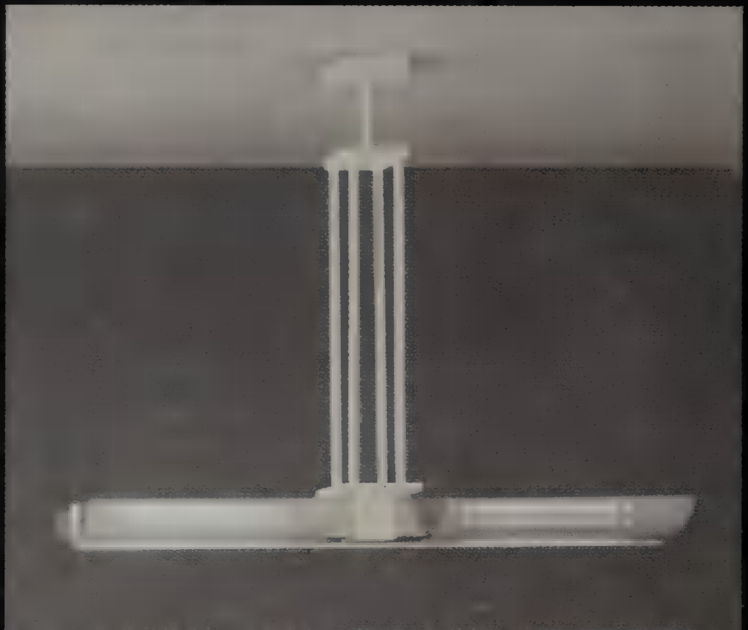

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CAD Presentations Get Real

Architects are increasingly turning computer savvy to imaging, offering options conventional renderers can't—and stretching computing's frontiers.

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By Ralph Grabowski

For the architect who does not have the time or the skill, there have always been delineators and modelmakers to prepare hand-drawn illustrations and presentation models. Now, delineators have gone digital: they render 3D CAD instead of illustrations; make animations instead of scale models.

Very often, it is the client who wants the rendering rather than the architect. It is traditional for the client to pay for these as marketing tools—to get governmental approvals, pre-lease the building, impress potential investors. Most imaging firms concentrate on high-quality renderings, since they have found these are the best way to get the design idea across to the client.

While an animation is impressive, it tends to skip over details; plus, the camera paths can be like a roller-coaster ride. Ayres Group, San Diego, a firm specializing in animations, finds itself increasingly sought after by international clients, according to Molly Scanlon, director, client services.In deciding whether to commission an animation, she says, "you need to define a purpose and an audience." One area Ayres and others concentrate on is presenting the impact of new development. Besides describing the appearance of the design, computer images or animations can readily show building heights and sight lines, view corridors, and other designed responses to zoning and planning issues.

Some firms specialize in producing multimedia presentations. They package sound, text, and images on the computer with Microsoft PowerPoint or Astound presentation software. A speaker can show the images at meetings using a notebook computer and LCD display panel (which transforms the computer image into one that can be projected on a screen). Ayres Group's Scanlon says "During construction, we'll run our animations as an information kiosk, instead of a 'pardon our dust' sign, to explain to visitors why they're being inconvenienced." Other firms offer project-archiving services. They scan as-built paper drawings for storage on CD-ROM or tape (for easy retrieval or conversion to CAD files), and make a film or video record of built projects.

Raw materials

Imaging services can start with hand-drawn sketches, design drawings, and CAD files—whether 2D or 3D. To make the drawing or rendering, the service must make a 3D CAD drawing of your project. Obviously, the less work the service has to do, the less it costs, so it's to your benefit to provide the project in electronic form. Among CAD files, the most common format is AutoCAD DWG or DXF. You deliver the files on 3 1/2-in. diskette, upload to a bulletin-board system, or e-mail the file directly through the Internet or through an on-line service like CompuServe.

The right viewpoint

Once the 3D model is constructed, other 3D data might be added, such as digital terrain modeling (DTM)—the computer term for the site profile. You can examine the model on-screen while an operator changes the angle, viewpoint, and distance until you agree on the desired point of view. The service will ask you for the colors and materials intended for the project. It typically has a large selection of already-digitized materials. Many are available commercially as "clip-art libraries" on CD-ROMs, such as surface textures for granite, marble, masonry, tile, and carpet.

These items can be copied from the source and pasted into the rendering. Items such as trees, seating, trash containers, automobiles, and people, can also be added from standard clip-art libraries. If need be, a texture can be created from scratch in three ways. Flat

Ralph Grabowski heads XYZ Publishing, Ltd., which publishes the CAD++VRML Newsletter *and other publications. His e-mail address is ralphg@xyzpress.com*

Simulacra used film-effects tools in visualizations for the Cine-Mania Theater (1, opposite and RECORD, August 1994, pages 62-63) for architect Ellerbe Becket, and the City Center Concert Hall in Kuala Lumpur (2) for Cesar Pelli and Associates. The firm has gone Hollywood, adding its architectural expertise to Batman Forever *(3). Jenkins Associates modeled a small spa (4). Some surfaces can be made transparent so clients can see inside.*

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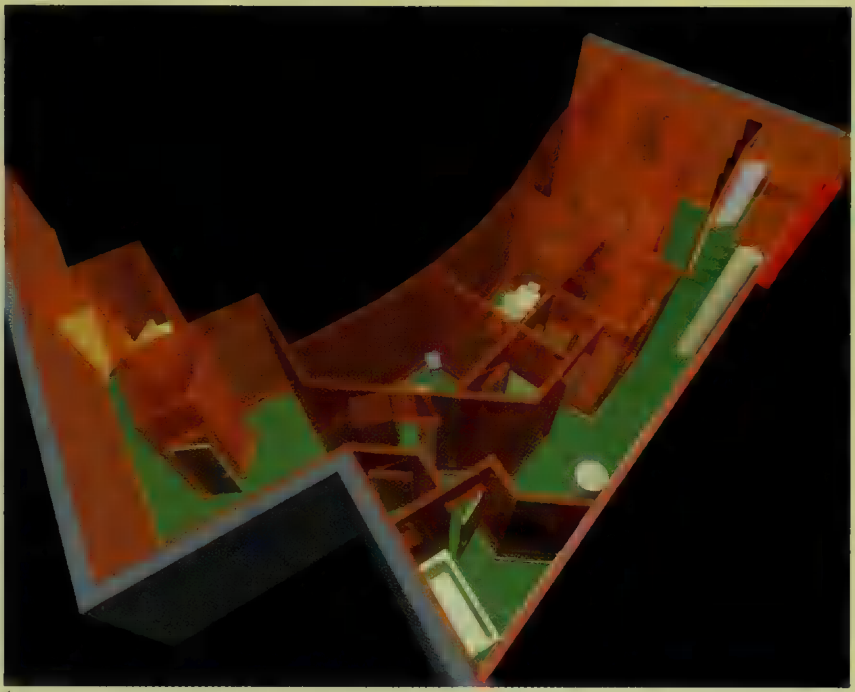

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samples, such as tiles and wallpaper, are digitized using a high-resolution, full-color, flatbed scanner. For materials that can't be scanned, such as bricks, you can photograph a sample, and use the Kodak PhotoCD process to create an electronic image. As a last (labor-intensive) resort, the service can create a surface texture by using a computer "paint" program. Whether scanned or photographed, the digital images become "texture maps" applied to the surface areas of the 3D drawing.

Since many digital-image firm principals are architects, they can produce credible surface colors and textures, even if the design is at an early stage and materials selection isn't final. Being digital, it's easy to change the color and texture at a later stage in the project. For animations, the client, architect, and imaging firm agree on the camera path through the project.

With the model's 3D viewpoints established, the file is exported to a rendering program like Autodesk's 3D Studio. Here, the texture maps are applied, the lighting parameters are defined, and the rendering takes place. The time it takes to render depends on the quality of rendering, the complexity of the model, and the speed of the computer. An anti-aliased Phong rendering (which includes textures, shadows, and lighting effects) may take a few minutes. A four- to five-minute animation can take more than two days to render on Ayres Group's 25 machines.

After the imaging firm applies the texture maps, the client and architect are invited to approve the placement. It is at this point that you may decide the colors or materials are not what was intended. Richard Buday, of Archimage, Houston, tells the story of a designer client sitting in his office with paint chips and swatches of vinyl and carpet. After the operator rendered the image as directed, the designer exclaimed, "No, no, the colors need to be darker here and lighter there." Working together, they changed the materials and re-rendered the scene until she was pleased. The designer returned to her office to find materials matching the screen colors.

While one can see the scale and relative amount of colors and textures in such a rendering, the subtleties of color in the real world are not accurately interpreted by the computer screen. The color you perceive is altered by many environmental factors—time of day, weather, reflections from moving objects, and the mix of light sources—that are hard to simulate. Also, if the image is printed, the deviations from screen color can be dramatic, unless screen and printer are carefully calibrated. The efforts in the field of CAD and illumination have resulted in rendering packages now capable of shadows, reflections, and accurate rendering of the amount and color of light. Still, research has yet to give us tools to present colors accurately on the screen and then output them identically on any color printer.

The output

The output from the computer is generally a high-resolution, true color, Targa or TIFF file. The "high resolution" is on the order of 2,048 by 1,526 pixels, which is four times the resolution of a typical computer screen. "True color" means the monitor is set to show up to 16.7 million colors or 24-bit color depth. Such high resolution and color depth means that the size of files is very large, on the order of 74MB uncompressed. Compression techniques can reduce files to 4MB—still too large to fit on a standard diskette. For this reason, you'll need to deliver files on a Bernoulli disk or other large-capacity medium.

To get hard copy of the image, you normally work with yet another outside agency. Reprographics firms can produce slides (using a digital film recorder), 8 1/2 by 11 prints (using a digital printer), and 24- by 36-in. posters (using a color inkjet plotter). Digital repro-

Using one computer model Jenkins Associates is able to produce numerous views of a new town plan, called Angus Glen Village, slated for Markham, Ontario (5, 6). The different views allow potential buyers to understand how the streets and public spaces create a sense of place.

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graphics firms are so common in all large cities that they often offer incentives for the first-time customer.

Computer-imaging advantages

Imaging firms say a single computer rendering has no cost or time benefit over a single illustration created by hand. It probably takes just as long and costs as much or more. The savings come when you make additional scenes from the same model or make changes. After creating one "database" (the 3D CAD model), it's easy to create multiple views. Once the lighting is set and textures applied, it's also easy to generate additional scenes from other viewpoints. For traditional hand-drawn renderings, the illustrator starts from scratch for every view.

What technology can't do

David Burch, of Jenkins & Associates, an architectural firm in Calgary, Alberta, points out an inconvenient aspect of computer imaging: the 3D model must be complete. Otherwise surfaces don't meet and shadows fall incorrectly. In a hand drawing, you can always place a tree or other visual subterfuge to obscure the not-yet-designed elements.

The imaging firms consulted agreed that computers also cannot match the feel and detail of a hand-made rendering. While it is easy for an artist to paint individual leaves on a tree, the memory needed for a computer to draw every part of a tree is tremendous. The file size become unmanageable and rendering time excessive. Instead, the firms try to do 90 percent of the work in the 3D model. Then they soften the hard lines and slick surfaces using touch-up applications like Adobe PhotoShop and Fractal Design Corp.'s Fractal Design Painter.

Burch warns that clients may see more in the hard lines and fully developed models than is actually there. They perceive an early study as a design cast in stone. Jenkins uses several techniques to make the computer image seem more tentative: He adds a pastel wash to the background instead of dropping in a photorealistic one; he makes the walls transparent so the client can see into the building. And some programs permit the application of the electronic equivalent of "brush strokes" to make the computer image look more like a watercolor. (Burch estimates 10 percent of his time is spent in PhotoShop.)

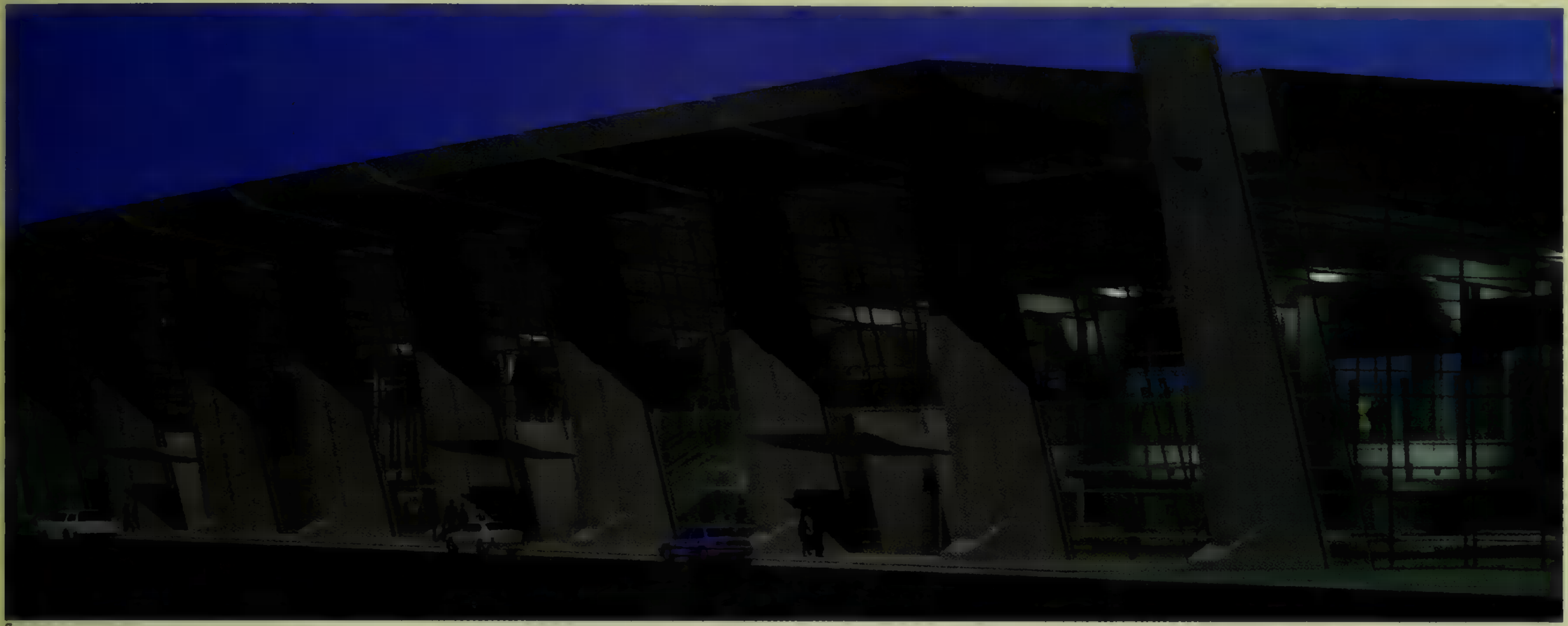
Similarly, computer animations, once the image sequence has been recorded, don't permit other viewpoints—at least until virtual reality becomes practical. Still, animation lets people see the project from a realistic viewpoint, rather than the helicopter viewpoint of physical models. You can choose the way you view a physical model, but they're fragile and hard to move around. For very large projects, such as the vast new cities being built in China and Thailand, animation becomes the only practical method for understanding the proposed site.

Computer imaging's cutting edge

There's a consensus that virtual reality is still not worth pursuing at present. The head-mounted display, data glove, and body suit environment, while immersive, provide a rather crude image—even now, seven years after work began on the technology. Robert Jacobson, of Worldesign, Inc., Seattle, builds virtual rooms by making spaces of projection screens that allow you to be surrounded by a virtual scene. "Ours is low resolution, but you move through at a natural pace. Others are high resolution, but slower," he says, adding that faster machines available as early as next year will make a significant difference. The University of New Lisbon, in Portugal, he says, is pioneering uses of 3D modeling for geographical information systems (GIS), which could have broad application in design and planning.

Increasingly, you can choose the direction you'll move through a scene, like the popular computer game, Myst. Apple Computer's

For Gensler and Associates' Los Angeles office, Ayres Group produced an animation of an expansion of San Diego's Lindbergh Field (7). The animation explains design concepts and provides a tour of the entire project. Scenes include meticulously detailed images such as the one below that feature complex lighting effects and the ability to see inside.



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QuicktimeVR lets the viewer move 360 deg. around a single viewpoint (http://www.apple.com). "We're moving into interactive, full-immersion spaces and full-motion," says Lance Hammer, whose firm, Simulacra, West Hollywood, Calif., uses powerful Silicon Graphics Workstations to run high-end programs like Alias Power animator and Pixar Renderman (the product behind the film *Toy Story*). "Pure interactivity is coming very quickly." Hammer's firm, which began using computer visualization in architecture, moved away from buildings to movies and advertising, but now finds itself returning to buildings—with a twist. A project for Dreamworks—still mostly under wraps—envisions a "real" architectural threshold to a virtual, but architectural space. Hammer's firm is designing both.

The purchase by Microsoft of the French workstation package Softimage, he says, may soon bring extremely fast tools to desktop computers. Silicon Graphics competes, he says, "by releasing something really incredible every year."

The Internet's World Wide Web is already being used as an advertising medium and an e-mail link. Publishers Depot at http://www.publishers depot.com offers stock photos, maps, audio clips, video footage, fonts, and works of art for browsing and purchase. Virtual-reality modeling language (VRML) offers even greater on-line potential. Using simple viewer software (usually offered free), you can move around a 3D object posted on the Web. Elements of the scene need not be located all on the same Internet site, which could mean that the model could be worked on and viewed by numerous parties working independently.

Today, the Internet's bandwidth is too low for this kind of interactivity. (Though Caligari offers "3D home worlds" at http://www.caligari.com/.) By the end of the decade, such collaboration should be more mainstream. One ambitious project is VirtualSOMA, an attempt to model part of downtown San Francisco south of Market Street using VRML at http://project9/soma.html. By using a VRML viewer, such as InterVista's WorldView, you walk through and fly around the district.

What should computer imaging cost?
No conventions appear to exist for pricing. A Canadian imaging firm drew up a proposed shopping mall in 3D CAD, then created a half-dozen high-resolution renderings for a total of CDN$8,000. A San Francisco firm charges $85 per hour for 3D CAD modeling and rendering. Photo compositing is more complex than straight rendering: the computer model is pasted into a photograph of the location. A recent project was priced at $3,800 for the first photo composition and $1,100 for each additional composed viewpoint. Ayres Group charges as little as $5,000 for a simple animation. Complex jobs run up to $100,000.

But don't expect a happy ending to this story. The outsourcing of digital architectural illustrations is not a booming business. Aside from Ayres Group, the firms surveyed were unanimous in stating that there isn't enough business in architecture to make computer imaging full-time work. The principal of one firm told me, "We are not actively marketing to architects, although we have done work for architects when they find us and we are happy to do it."

To find the happy ending, these firms look elsewhere. Archimage markets to producers, directors, and ad agencies. Simulacra did computer-generated architectural backgrounds for *Batman Forever* (previous pages); the project was so demanding, the hardware required a movie-studio budget, and Alias had to write custom software. Creative Communications takes their experience in architecture and applies it to visualizations for non-architectural clients, such as government agencies and developers. ■

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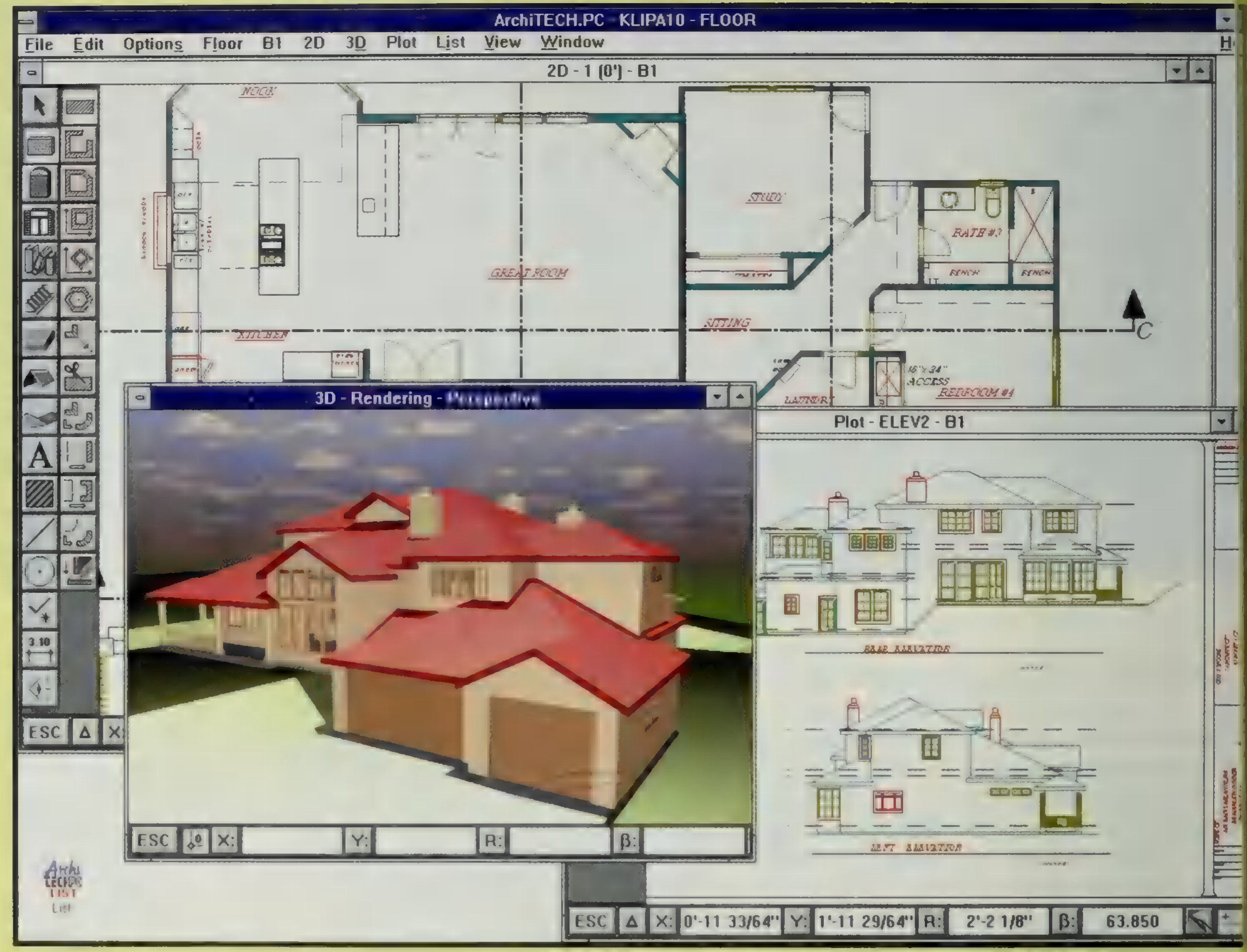

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Standard Data Gets Data Standards

To realize the full promise of computers in architectural practice, a wide range of manufacturer and price information is finally being computerized in a standard way.

By Steven S. Ross

As we've been saying for some time, the full promise of computers in architectural practice can only be fulfilled if a wide range of manufacturer and price information is computerized in a standard format. Once that happens, data can be more easily exchanged among various sectors of the construction industry.

The two biggest questions about that computerization—who will handle the job of computerization, and how will it be standardized—were answered in part over the past two months.

> *"Ultimately [The Industry Alliance for Interoperability] will mean that "objects" could work with both major families of CAD software—AutoCAD and MicroStation."*

Autodesk, the people who bring you AutoCAD, have been near the center of all of developing the standards. With the help of several major information providers—including the Sweet's Group at the McGraw-Hill Companies—Autodesk will be publishing a "Design and Construction Library" of "intelligent" digital data.

Sweet's has been putting vendor material on CD-ROM for some time. In fact, it announced a service to prepare such material for vendors this past June. Autodesk's Data Publishing group started its Mechanical Library last March. That effort was, in many ways, the first example of intelligent digital content for design professionals.

But the architectural world poses far more problems than mechanical engineering—more products by smaller vendors, combined in more ways and under more varied conditions. Thus, Autodesk is cooperating with a range of data publishers that have construction-industry experience.

Sweet's is producing a CD-ROM series for Autodesk's Data Publishing Group that will contain data on building products and equipment, in pre-formatted, dimensioned CAD files. Sweet's research shows that about a third of all drafting time is spent re-drawing building components and products that have already been selected and specified.

Sweet's has long required that manufacturers put their materials into a standard print format for inclusion in its catalogs. But doing the same for computer formats requires even more cooperation from vendors. The vendors certainly can distribute independently of Sweet's, and many do. But if they don't comply with the Sweet's standards for their details, they may be shut out of many designers' decisions.

R.S. Means, a subsidiary of Southam Construction Information Network, will produce CD-ROMs that link to AutoCAD, providing what could become the standard way to link objects (doors, windows, wall materials, and so forth) in a drawing with cost data. Again, the potential for increased accuracy and decreased time spent is high. James D'Arezzo, vice president of Autodesk's Data Management Group, estimates, "AEC professionals spend as much as 25 percent of each day documenting design decisions and change orders." Being able to update costs—if not all costs—instantaneously as changes are contemplated modifies the way design professionals approach the whole process.

Another Southam affiliate, MSA (Manufacturers' Survey Associates, Inc.) is also joining up to produce hvac, plumbing, and electrical-design data for CD-ROM. So is a more traditional publisher, John Wiley & Sons.

Thus, makers of building products and traditional data publishers, rather than software companies, will put all of this in computer form. But the traditional publishers and the product vendors must cooperate with software companies. Otherwise, everything won't work together.

But will it all work together anyway? And what information should sellers of building products include in their computer files? That has also been answered, in large part by the industry push to standardize computer "objects."

The Industry Alliance for Interoperability is trying to standardize what information, exactly, a standard object will contain at a minimum—the so-called "industry foundation classes" for such objects as doors and windows. Such information could include materials, colors, weight, and fire ratings as well as dimensions [RECORD, August 1995, pages 32-34]. Autodesk's largest competitor, MicroStation's Bentley, joined the alliance last October. IAI was originally championed by Autodesk, but is now an independent organization.

With Bentley joining the alliance, it will ultimately mean that "objects" could work with both major families of CAD software—AutoCAD and MicroStation. We say "could" because many vendors of add-on software have yet to sign on. Many have, and Bentley's action, along with various data publishers' willingness to bring product manufacturers along, should accelerate the trend. It should also bring many other CAD vendors into the fold.

All this won't happen overnight, of course. In fact, release of the first batch of "foundation classes" was supposed to take place last fall. It is imminent as we go to press. And, although publishers' automated "intelligent" catalogs are released this year, it will be some time before they will be fully compliant with object classes (there won't even be standards for many products this year) and before CAD software will fully interact with the objects.

But the road ahead now looks rather clear—and wide. ■

Cheap Tools

Here are three graphics packages that won't break the bank, but may make your office more efficient—and your life easier as well.

Visio Technical 4.0

Vendor: Visio Corporation, 520 Pike St., Suite 1800, Seattle, WA 98101, 206/521-4500, fax 206/521-4501, CompuServe GO VISIO, Microsoft Network Visio Forum, http://www.visio.com.

Equipment required: Computer capable of running Windows 3.1, Windows NT 3.51 or higher, or Windows 95. Full installation takes 30 MB of disk space.

Cost: $249 (street price closer to $150).

Imagine "drawing" by dragging pre-defined shapes onto the page and connecting them. That's what Visio is all about. When it first appeared in 1992, Visio was aimed more at simple but annoying jobs such as drawing organization charts. With Technical Version 4.0, it becomes a full-featured tool, particularly useful for facilities management, landscaping, HVAC, and other tasks that require repetitive drafting work.

Each shape (Visio 4.0 comes with about 2,000 of them) has data behind it—data that governs its behavior. You can create an unlimited number of new shapes as well, either from scratch, by modifying old shapes, or by importing drawings or symbols into Visio. AutoCAD symbol libraries can become libraries of Visio shapes.

The data is in what Visio calls a Shape Sheet—there's one for each shape. It can contain formulas to govern the behavior of shapes as you scale them. Thus, you can set up a desk to stretch without getting wider, or a table to get larger without enlarging the associated chairs.

As you might expect, there's full import and export of AutoCAD DXF and DWG (binary) files, as well as IGES and Illustrator. There's import of CorelDraw, Micrografx DRW, and many standard formats such as TIF and PCX. But Visio throws in some tricks as well. You can, for instance, assign the same object to more than one layer in Visio. You can also use a Visio drawing on top of an AutoCAD drawing—for redlining or perhaps to add furniture to an office plan.

By the way, Visio used to call itself Shapeware—same company, new name.

Manuals: On-line for using Visio itself. Printed 420-page manual for developing your own solutions—by creating new shapes and so forth.
Ease of use: Trivial to draw with; creating something as sophisticated as a facilities—management layout requires lots of work. Wide choice of interfaces—you can make it look like Microsoft Office, Novell PerfectOffice, or Lotus SmartSuite.
Error-trapping: Excellent.
101 *on Reader Service Card*

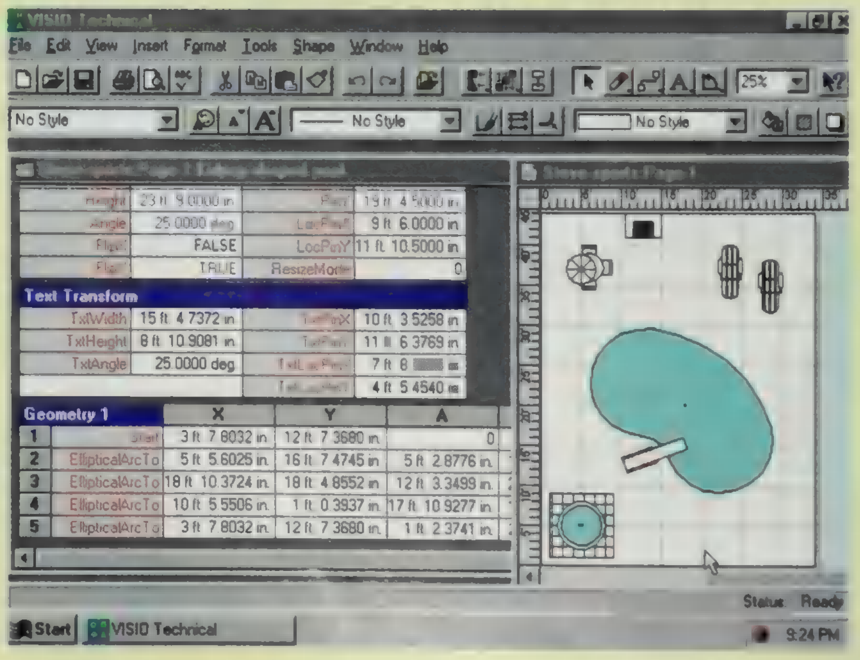
XCAD 3.0

Vendor: Xitron Software Corporation, 1500 Chiquita Center, 250 East Fifth St., Cincinnati, OH 45202. 513/762-7638, fax 513/662-3440, 800/817-8172.

Equipment required: Computer capable of running Windows NT or Windows 3.1/3.11. A fully tested 32-bit Windows 95 version should be available by the time this review appears. Pentium processor strongly recommended.

Price: $495; street price about $420.

Looking for an easy-to-use 3D CAD program with good AutoCAD compatibility? XCAD may be for you. Its major weakness as a 3D sketch tool is that it lacks boolean capability—

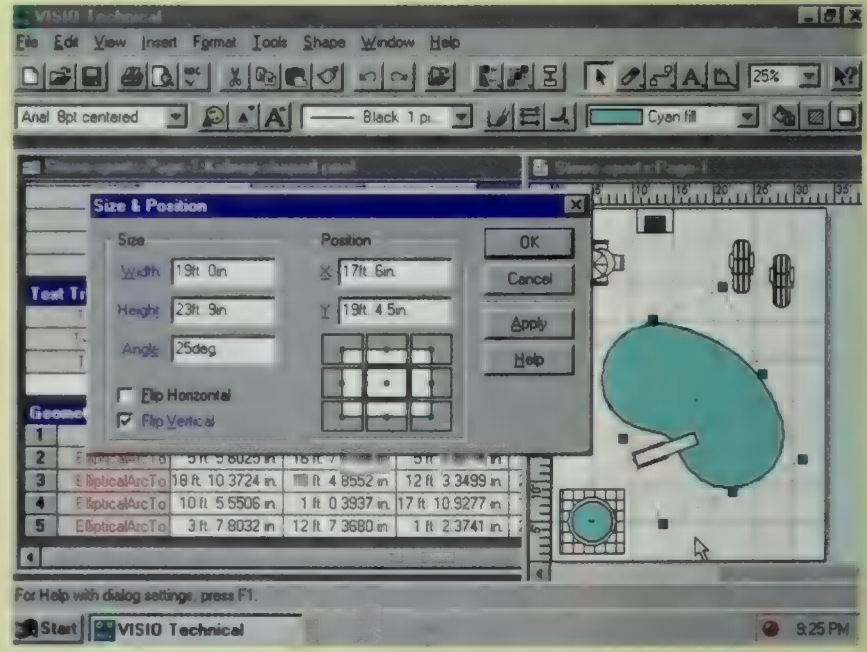


Height	23 ft 9.0000 in	[illegible]	19 ft 4.5000 in
Angle	25.0000 deg	[illegible]	9 ft 6.0000 in
[illegible]	FALSE	LocPinY	11 ft 10.5000 in
[illegible]	TRUE	ResizeMode	0

Text Transform

TxtWidth	15 ft 4.7372 in	[illegible]	10 ft 3.5258 in
TxtHeight	8 ft 10.9081 in	[illegible]	11 [illegible] 6.3769 in
TxtAngle	25.0000 deg	[illegible]	7 ft 8 [illegible]
		[illegible]	4 ft 5.4540 in

Geometry 1		X	Y	A
1	Start	3 ft 7.8032 in	12 ft 7.3680 in	0
2	EllipticalArcTo	5 ft 5.6025 in	16 ft 7.4745 in	5 ft 2.8776 in
3	EllipticalArcTo	18 ft 10.3724 in	18 ft 4.8552 in	12 ft 3.3499 in
4	EllipticalArcTo	10 ft 5.5506 in	1 ft 0.3937 in	17 ft 10.9277 in
5	EllipticalArcTo	3 ft 7.8032 in	12 ft 7.3680 in	1 ft 2.3741 in



Size
Width: 19ft. 0in.
Height: 23ft. 9in.
Angle: 25deg
Position
X: 17ft. 6in.
Y: 19ft. 4.5in.
☐ Flip Horizontal
☑ Flip Vertical

For Help with dialog settings, press F1.

Visio Technical 4.0: *Note the kidney shaped swimming pool and the underlying "shapesheet." Changing the sheet changes the [illegible] vice versa. On-line [illegible] and well [illegible] the place- [illegible] on the screen as well. The icons in this case are in the same style as Microsoft Office.*

you can't use one shape to add to or hollow out another. There's no binary (DWG) import or export in the version we reviewed, but DWG, DXG, and IGES exchange is in the 32-bit version. Many of our users found it a delight to draw with anyway, on fast computers.

You get continuous shading with multiple light sources (LightWorks was added this fall), up to eight viewports (windows) on screen at once, and a command emulator that makes it similar to AutoCAD, MicroStation, or Generic CADD.

XCAD is also being marketed as the drawing engine in others' specialized disk packages. It supports referenced drawings and has good surface-modeling tools (most of the NURBS set). There's a macro-language and a development kit available that can be used to add functionality to XCAD.

Manuals: Separate paperbacks for getting started, tutorial, and a detailed user guide/command reference.
Ease of use: Excellent 3D interface; slow on an older non-Pentium machine.
Error-trapping: Unlimited undo function. You can password-protect a drawing on top of any network administrative scheme; if you lose the password, there's no "back door" to get back your work.
102 *on Reader Service Card*

Planix 3D Exterior Designer 1.0

Equipment required: Any computer that can run any version of Windows 3.1 or higher. Must have separate math coprocessor if CPU is 386 or 486SX. Display capable of at least 256 colors strongly recommended.

Vendor: Softdesk Retail Products, 10725 Ambassador Drive, Kansas City, MO 64153.

Price: Street price roughly $50.

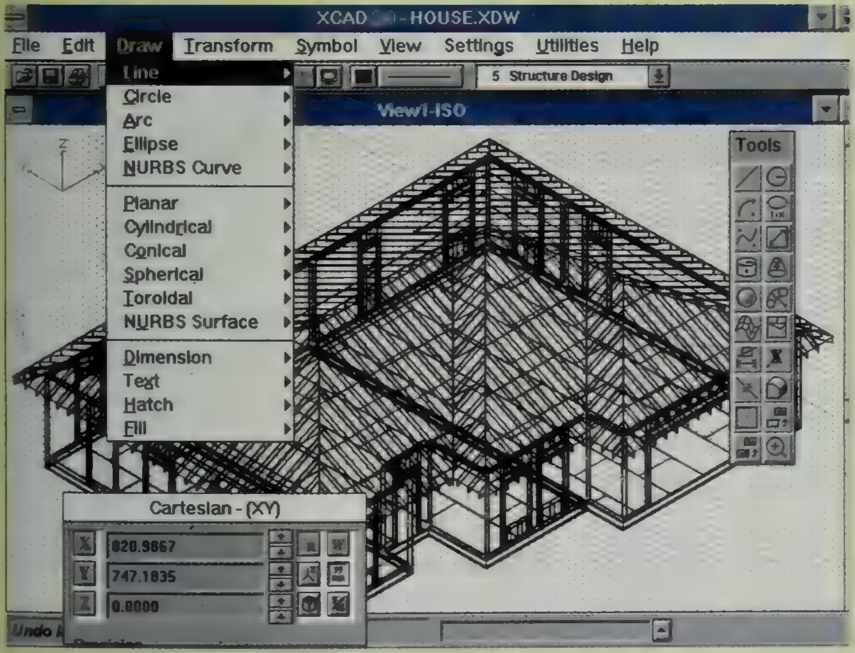
Here's a great (and cheap) tool for "brick and stick" designers to lay out a home, landscape it, and play around with its exterior finish. Actually, it's meant for amateurs—non-architects—but you don't have to tell anyone.

The interface is ingenious. For instance, you lay out your building in plan by adjusting an existing footprint (there are many to choose from) by pulling on its "handles." Each story, and the roof, can have a different footprint to allow overhangs and setbacks.

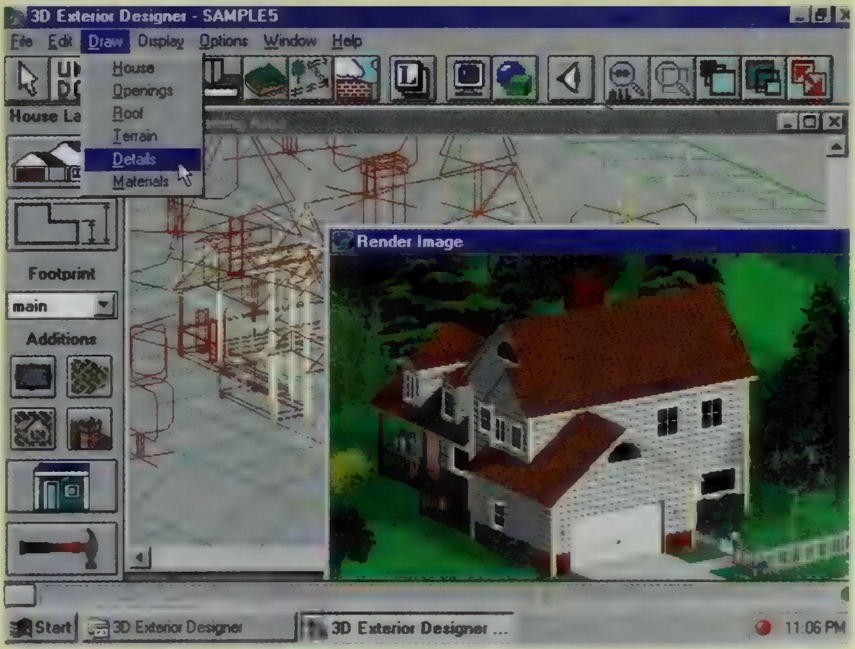
As you work on each item—plan, elevation, landscaping, roof—placing trim and windows or doors and so forth, Planix automatically groups things into layers for you. The package comes with plenty of symbols—trees and windows, for instance—and allows you to create or add more. When you want to visualize the results, click on "render" to get an image.

The underlying software engine is Drafix, one of the first and best Windows-based CAD packages. (Softdesk's retail division was Foresight, Drafix's developer.) But you can't directly save into an AutoCAD- or MicroStation-compatible file format. Files can be saved as bitmaps, or for Planix Home 3D (it does the interiors). That's the only real drawback.

Manuals: Straightforward 55-page reference and tutorial.
Ease of use: Trivial. Fun. You won't break the training budget on this one.
Error-trapping: You can place the wrong thing in the wrong place, but fixing it is a snap. You can also place a misleading filename extension on a filename.
103 *on Reader Service Card*



XCAD 3.0: *There's a full range of 3D as well as 2D drawing, dimensioning, and shading tools. You can use the "Cartesian" window to change the viewpoint or to bring a 2D plane into the same orientation as the screen for easy editing.*



Planix 3D Exterior: *Designer 1.0 Wireframe and rendered version of house.*

house beautiful Architecture Award

In celebration of its 100th anniversary in 1996, House Beautiful magazine announces a Centennial Award to recognize outstanding residential architecture in the United States. The winning entry will be selected by a jury on the basis of design excellence, creativity, appropriateness, and quality. The winning design will be featured in the centennial issue of House Beautiful. An award of $20,000 will be presented to the architect of the project.

JUDGING The jury will meet in May 1996 and a formal public announcement of the winner will be made prior to the publication of the award-winning project in House Beautiful. The cash award will be part of a presentation ceremony in the fall of 1996. **JURY** **Walter Chatham** *President of the Architectural League of New York, Principal, Walter Chatham & Associates* **Deborah Dietsch** *Editor in Chief,* Architecture *magazine* **Frances Halsband** *Partner, R.M. Kliment & Frances Halsband Architects* **Donlyn Lyndon** *Architect, Writer, and Professor, University of California, Berkeley* **Terence Riley** *Chief Curator, Architecture and Design, Museum of Modern Art* **Louis Oliver Gropp** *Editor in Chief, House Beautiful* **DEADLINE AND RULES** Entries must be postmarked by **April 30, 1996.** If delivered, entries must arrive at House Beautiful at the street address below no later than 5 P.M. that day. Address entries to: **Centennial Award, House Beautiful, 1700 Broadway, 29th floor, New York, N.Y. 10019.** House Beautiful is not responsible for late, lost, or misdirected mail. Entry fee is subject to state regulations and prohibitions. All taxes related to cash awards are the responsibility of the winner. **ELIGIBILITY REQUIREMENTS** •Unpublished residential projects completed in the United States during the two years prior to the entry deadline are eligible. •Projects may include renovations, reused spaces, apartments and houses, as long as major living spaces are involved. •All work must be completed and occupied by the residents by the date of submission. •The designer's and the client's written approval and permission to photograph the residence must accompany each submission. The designer and the client may be the same person. •The design work must have been performed by professionals with active practices. The practices need not be located in the United States. •Any entrant who has a current professional connection to one of the jurors is ineligible. •The jury's decision is contingent upon eligibility being established. House Beautiful reserves the sole right to determine a project's eligibility.

For entry forms, call House Beautiful Awards Editor: 212-903-5239

Circle 15 on inquiry card

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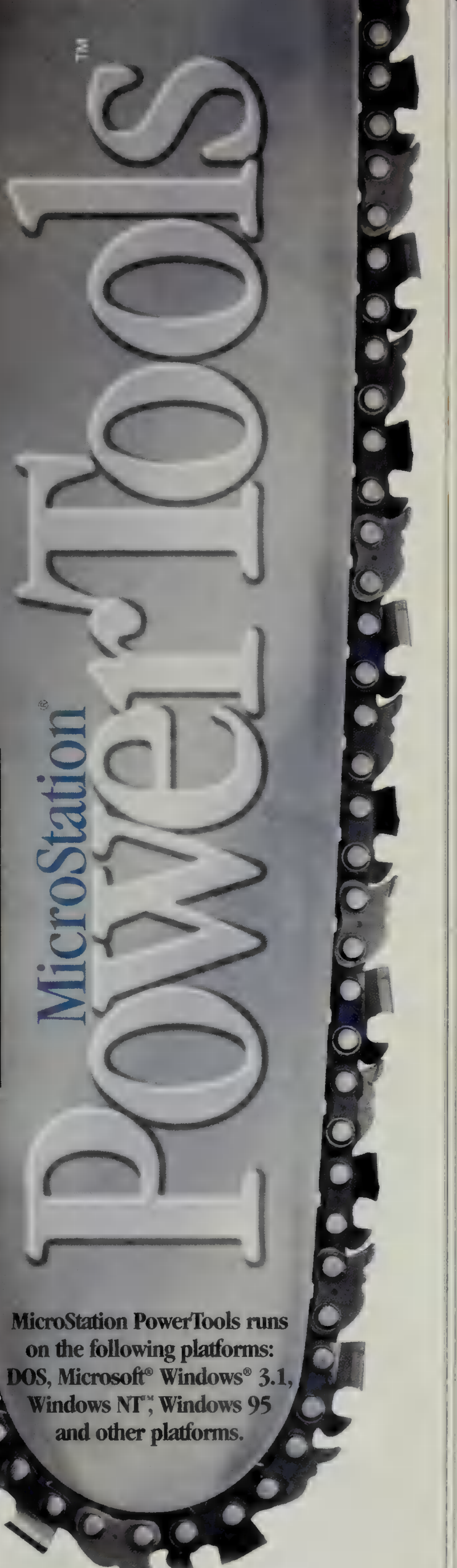

MicroStation PowerTools runs on the following platforms: DOS, Microsoft® Windows® 3.1, Windows NT™, Windows 95 and other platforms.

Outside the U.S. and Canada, check for specific product availability.

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[1] An independent test performed by Robert Martin of Value Engineering Associates comparing PowerArchitect and AutoCAD Release 13 to generate the same typical commercial architectural drawing. The same method of construction was used for both, as if the operator were at the same level of proficiency in both packages.

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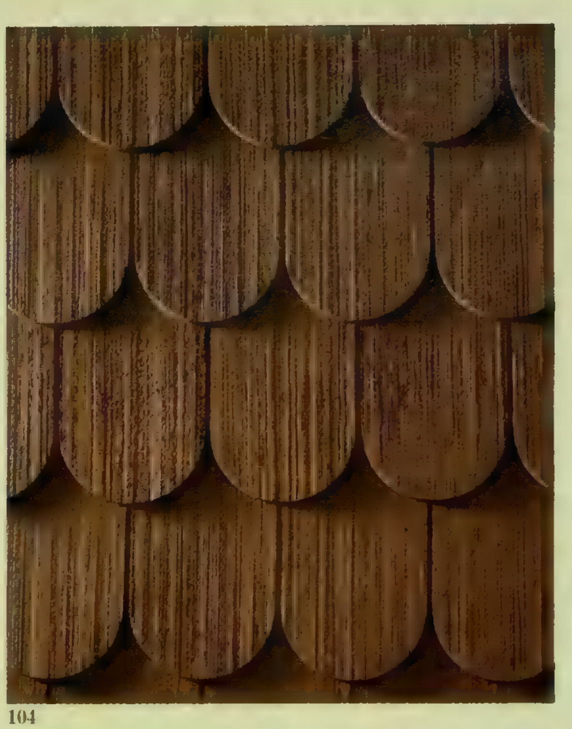
On the Outside

Clapboard and shingles clad many homes in America. Both plastic and natural-wood products can offer excellent appearance and long-term performance if properly selected and installed.



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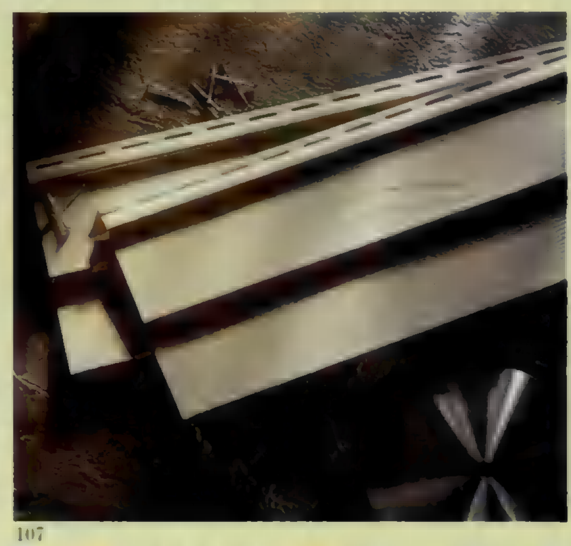

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108

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According to the Vinyl Siding Institute, a division of the Society of the Plastics Industry, vinyl is now the most popular siding choice for residential exteriors, including multifamily projects and condominiums. By 1993, PVC had 44 percent of this market, compared to 39 percent for wood, 14 percent for masonry, and 3 percent for "other." Today's plastic with UV inhibitors represents more sophisticated chemistry than earlier pretty-much-just-white siding. Achieving UV stabilization has expanded the palette to include deep tones and authentic historic colors; elements such as door lintels and dentil moldings enable the designer to create a detailed facade using vinyl accessories.

Correct installation is key

Rigid PVC siding must conform to the dimensional and other characteristics required by ASTM 3679; color change over the life of the siding should be within this standard's color-hold guidelines.

The main concern of a vinyl-siding installation should be to fasten the panels as described in *Rigid Vinyl Siding—Application Instructions*: nails must be spaced correctly and centered in the slots; nailheads must not embed and restrict the thermal movement of the panel, anticipated to be about 1/4-in. over a 12-ft length. Siding must be able to expand and contract or it will buckle. Siding distortion from improper nailing is the most common complaint brought to the Institute, says Rich Gottwald, technical director.

Over and above the dimensional and color-retention standards compelled by ASTM D-3679, there is a wide number of surface grain pattern and gloss options, panel profiles, and coordinating accessories for the architect to choose from. We show five new product lines here.

104. Half-round shingles. A new pattern in this maker's Cedar Impressions line, half-round shingles are made in molds cast directly from hand-cut cedar pieces. While made of polypropylene to better mimic the texture of the wood original, the shingles come in seven colors designed to work with vinyl siding products and trims. Shingles are furnished as a 34-in. double-course panel with interlocking side tabs said to provide a seamless appearance when installed; these and others of this maker's siding products have been successfully wind-tested at 180 mph. 800/233-8990. CertainTeed Corp., Siding Division, Vinyl Building Products Group, Valley Forge, Pa.

105. Long-lasting colors. Heartland guarantees its Satin Ensemble vinyl siding to exhibit color retention well above ASTM requirements. Available in nine colors ranging from white and pastels to darker clay, sage, and gray tones, siding comes in the four profiles shown: double 4-in., double 5-in., double 4-in. Dutch lap, and a triple 3-in. exposure. An architectural specification binder and color fandecks sample siding, soffit, trim, and Sherwin-Williams paint colors designed to work together. 800/328-7864. Heartland Building Products, Booneville, Miss.

106. Realistic texture. Waterford, a new siding produced by a recently acquired Canadian subsidiary of ABT Building Products, incorporates a fairly subtle woodgrain embossing. Siding comes in 10 colors with matching accessories, facings, and shutters. Profiles include double 4- and 5-in. and a double-4-in. Dutchlap. 800/265-9829. ABTco., Inc., Siding Division, Roaring River, N.C.

107. Bigger product mix. Expanding its range of product for the residential/ multifamily market, Owens-Corning offers Transitions vinyl siding, with a smooth-grained surface said to resemble painted wood. The product comes in eight colors and three styles, including the double 4-inch lap shown. 800/GET-PINK. Owens-Corning, Toledo, Ohio.

108. Positive lock. Wolverine's new siding, American Legend, has a 90-deg face, and more-secure edge design that snaps panels together horizontally. This increased stiffness helps keep siding straight during installation. The vinyl's surface is described as a "soft" woodgrain, available in nine colors; "Cream" is shown on the house. An *Exterior Design System* for architects illustrates coordinating siding, trim, and accessories; an *Idea Book* includes before-and-after photos to demonstrate how siding can be "historically correct." 800/452-2152. Wolverine Technologies, Livonia, Mich. ■

Specifications Revised for Red-Cedar Sidings

Siding made of western red-cedar lumber is a premium architectural product. Correctly selected, installed, and finished, there is no reason cedar siding should not remain weatherproof and attractive for decades. And its physical characteristics permit a range of versatile architectural applications not possible with other materials. For example, architect Paul Grant was able to apply bevel-edge cedar siding to garage doors, to tie them into the house itself (top, right).

To make sure that cedar achieves its full potential, an industry group (whose members are the major sources of red-cedar lumber in the U.S. and Canada) has published new guidelines for architects, trying to take some of the mystery out of using cedar as an exterior siding and to reflect current thinking on appropriate wood grades, attachment methods, and finishing options (bottom, right).

Specification. It's important to be able to evaluate different cedar sidings accurately, to select the most appropriate and economical grade for the esthetic desired: will the siding have a clear, natural finish, weathering over time? Will it be painted or stained? The Association's Specification Guide includes good color photos that provide a realistic look at the different grades of cedar and demonstrate their relative differences. Tables for each siding type—bevel, patterned tongue and groove and lap siding, and vertically oriented board-and-batten—list the information needed to insure that the wood specified matches the intended end use. Criteria:

- *Pattern.* For example, plain bevel, rabbeted bevel, or wavy edge bevel.
- *Nominal size* . Thickness and Width.
- *Quantities.* Coverage tables translate different exposures into a surface measure for calculating linear feet needed.
- *Grade.* For bevel siding, these would include Clear Vertical-Grain Heartwood, A Clear, Rustic, B Clear, Select Knotty, and Quality Knotty.
- *Grading agency paragraph.* The appropriate rule to reference each siding.
- *Surface to be exposed.* Designation of either smooth face or sawn should anticipate the finish to be applied: paint on smooth, clear or opaque stain on rough-sawn surfaces.
- *Moisture content.* Kiln-dried or green.

Installation. The two most-common mistakes in putting up siding are not nailing to a sufficient base—fasteners must penetrate into a solid-wood stud—and using the wrong nail. Choose hot-dipped galvanized, aluminum, or stainless-steel nails only; stainless-steel is the best choice, especially if the siding is to be finished with transparent or semi-transparent stain. Make sure that the nail length accounts for sheathing thickness.

Finishing. The Association strongly recommends back priming all siding, and feels that the performance and appearance expectations architects have of cedar are better met with a coating appropriate to the look desired, whether paint, semi- or opaque stain, or a clear or weathering finish. 604/684-0266. Western Red Cedar Lumber Association, Vancouver, British Columbia. *Circle* **109** ■

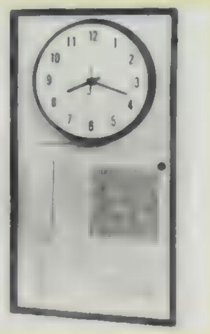
Product Briefs

For more information, circle item numbers on Reader Service Card.

110. Compliant signage
Made of zinc- or magnesium-based metals for interior applications, new SignEtch plaques can convey wayfinding directions in tactile and Braille lettering with good depth and definition. Signs are finished with an acrylic urethane available in standard and custom colors and natural metal tones; unetched surface areas have a brushed texture. 800/ASI-SPEC. ASI Sign Systems, Inc., Dallas.

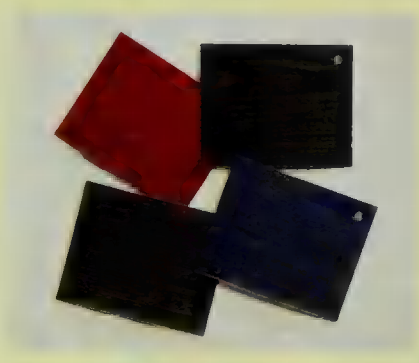
111. OSB spec guide
A free two-diskette Windows-based tutorial, SpecRite helps architects, builders, and building officials specify structural panels made of oriented-strand board, illustrating such code-approved OSB applications as wall and roof sheathing, subfloors, structural insulated panels, and I-joists. Text can be exported to construction documents. 218/829-3055. Structural Board Association, Willowdale, Ont.

112. Flexible-rail lighting
Sirius is a versatile low-voltage system for task, accent, and decorative lighting. Connectors let bendable-track segments turn corners or radiate outward from a central hub; stems and cables permit vertical or horizontal mounting. Fixtures made of polished chrome or gold-plated metal hold frosted-glass cones, cylinders, and accent discs. 708/559-5500. Con-Tech Lighting, Northbrook, Ill.



113. Classroom communication
A compact enclosure that fits into a space one block wide by three blocks high, the 2333 classroom panel combines clock, intercom speaker, telephone, modular jacks, and lighting controls in a single, easy-to-install unit. Components—clock, phone—are modular and wired separately. Mounting hardware is concealed, and the panel door locks. 508/632-2500. Simplex, Gardner, Mass.

114. Not just for health care
The Nightingale Product Design Award this year went to the Super-Sling elastomeric-fabric technology incorporated in the "De-Stressor" chair. Developed with Milliken and Hoechst-Celanese, the material provides even support, looks like regular upholstery, is sponge-wipeable, stain- and disinfectant resistant, and won't abrade skin. 213/752-0101. ADD Specialized Seating, Los Angeles.



115. Engineered woodgrain
A multilaminar wood veneer for use on walls, doors, furniture, and cabinetry, Ligna postformable laminate mimics exotic woods and burls but is made from plantation-grown trees. Metallici patterns, pictured, have "gold" veins in cathedral-grained oak; finish options include polyurethane, natural, and melamine. Zip-Chip samples available. 800/FORMICA. Formica Corp., Cincinnati.

116. Shelving system
Ellen's Brackets, a system of anodized-aluminum shelf holders and track designed by M. Ali Tayar, allows flexible placement of wood, glass, or plexiglass shelves. The simple, cantilevered brackets come in two sizes, for shelves 3/4 and 3/8-in. thick and 10-in. deep. Tracks permit 1 1/2-in. vertical adjustment of each shelf. 212/989-4959. Parallel Design Partnership Ltd., New York City.

117. Vented curtainwall
A new operable-vent configuration for this maker's CW-250 curtain wall is identical in outward appearance to fixed glazing, blending into the surrounding transoms. Vent sections are available with shallow and deep mullions, and come in a top-hinged/project-out style that accepts 1-in. insulating glass. A single-lever, multipoint lock may be specified. Vistawall Architectural Projects, Terrell, Tex.

Short Takes

Tender offers.

- The Sherwin-Williams Co., Cleveland, is acquiring Pratt & Lambert United, Inc., of Buffalo, a paint brand started in 1849. The $35/share tender represents a $400-million purchase.
- GAF Corporation, Wayne, N.J., will buy all outstanding shares of U.S. Intec, a manufacturer of bituminous roofing based in Port Arthur, Tex.
- Kohler Co., Wisconsin, has purchased Robern, Inc., a maker of upscale bath cabinets, mirrors, and vanity lighting in Bensalem, Pa.

Blast. To promote the advantages of specifying glass with a plastic interlayer, the Laminated Glass Association has established a web site, accessible at http://lgic.glass-info.com. Video clips of a recent test bombing will be used to demonstrate the security benefits claimed. An e-mail address, lgic@glass-info.com, is available for project-specific queries.

Not a whiff. The American Plywood Association (recently renamed as *APA-The Engineered Wood Association*) has published a report that highlights the difference in offgassing potential between the waterproof, phenol-formaldehyde adhesives used in such wood-panel products as oriented-strand board, softwood plywoods, and structural composite panels, and the urea-formaldehyde adhesives sometimes associated with poor indoor-air quality. Copies of the report, SPE-104b, are free from the Association, PO Box 11700, Tacoma, Wash.; 206/565-6600, x186. ■

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longevity

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Architects: Arup Associates

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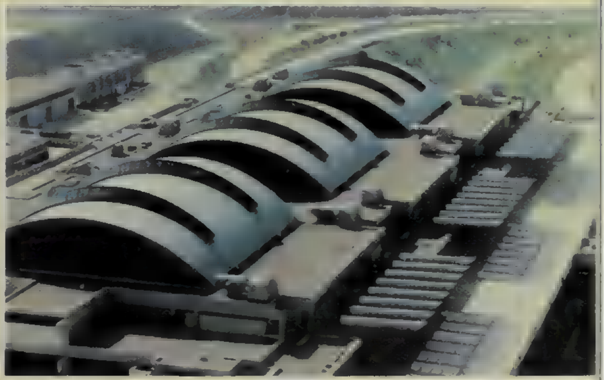
Dazaifu Treasures Museum
Tokyo, Japan
Architects: Satoh Total Planning and Architecture

KOREA

Keishu Art Museum
Seoul, Korea

UNITED STATES



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Pittsburgh, Pennsylvania
Architects: Tasso Katselas Associates

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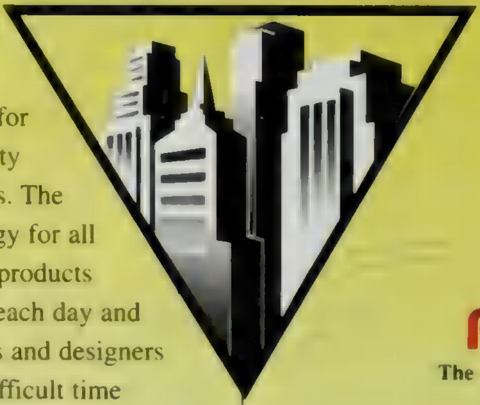

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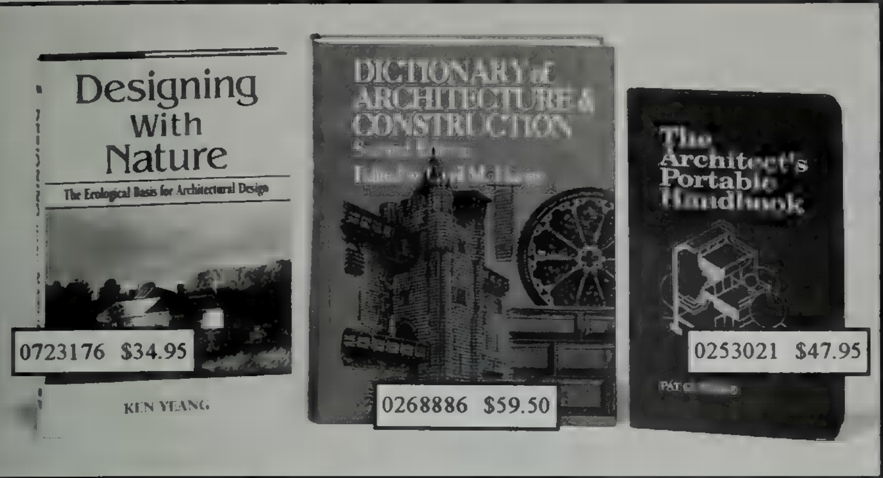
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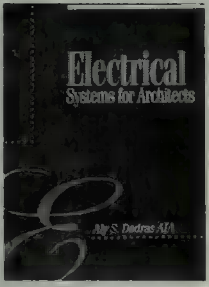

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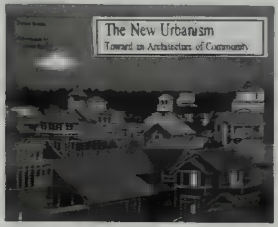

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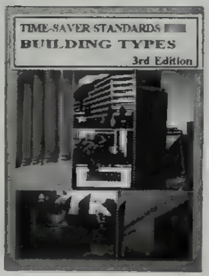

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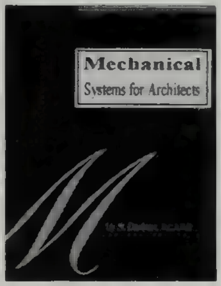

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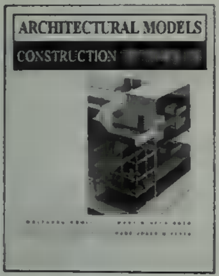

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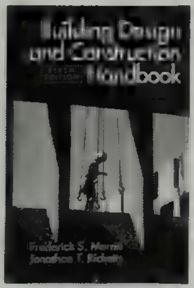

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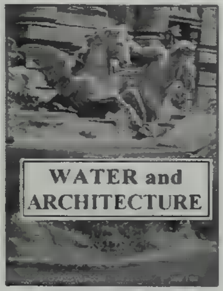

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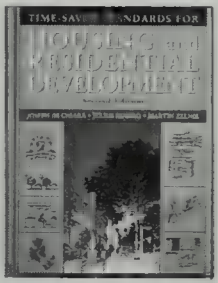

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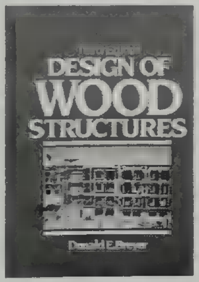

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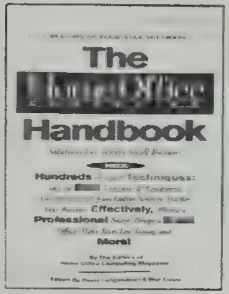

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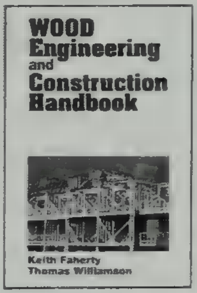

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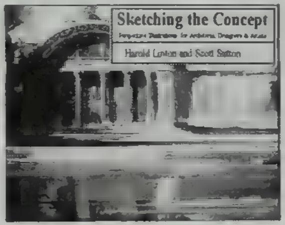

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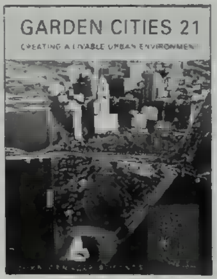

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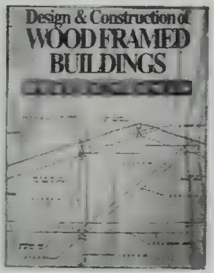

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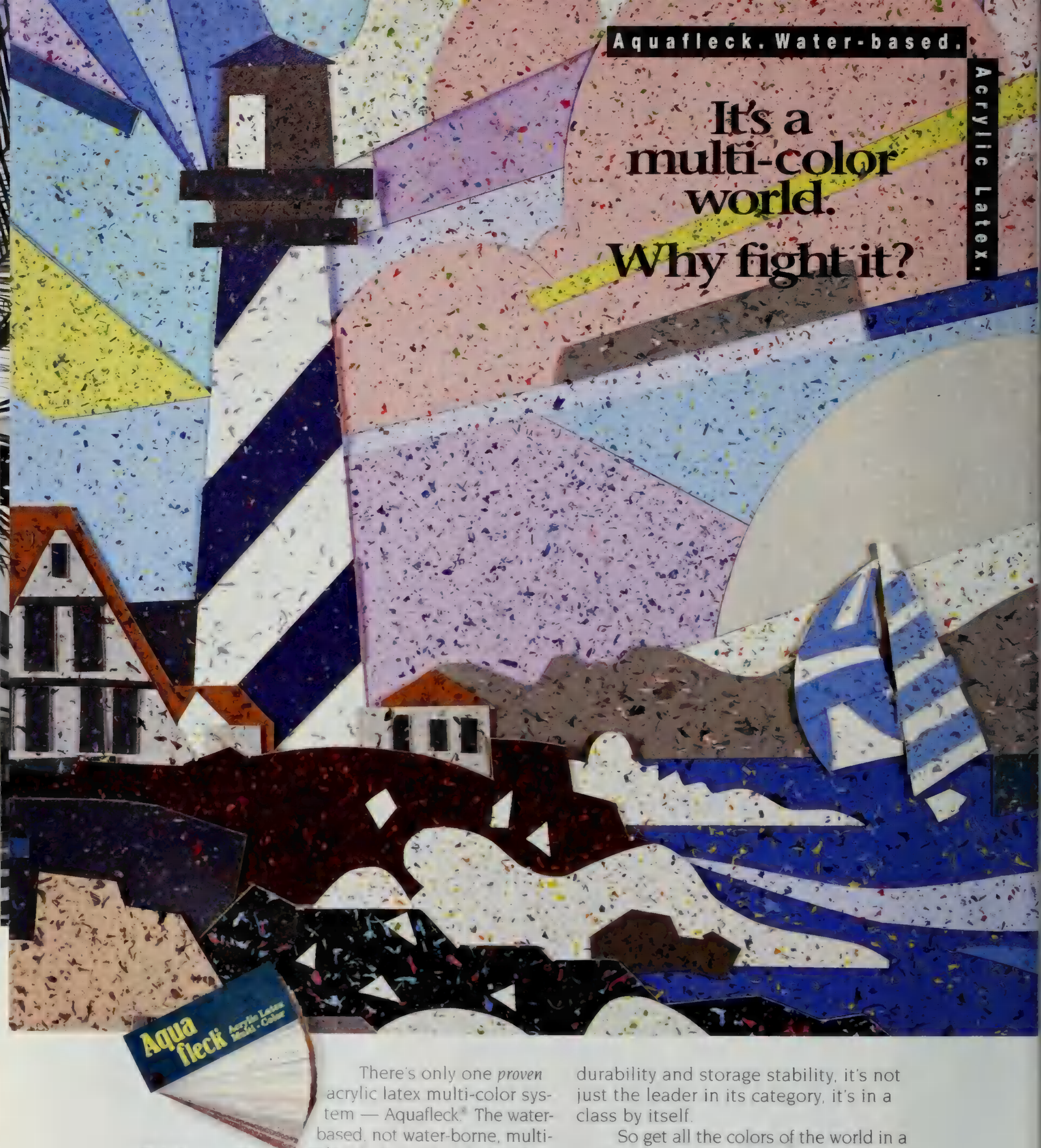
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Trying, as correspondent Beth Dunlop reports, to turn "fiction into fact," the Walt Disney Company has embarked on an ambitious program to invent a town that resembles one of its own moving-picture fantasies of American small-town life—Norman Rockwell writ large. Located near Orlando, Florida, and that ultimate destination spot, Walt Disney World, the feel-good-named town of Celebration is literally on the rise, with a master plan by Robert A.M. Stern Architects and Cooper Robertson & Partners and major downtown buildings by an all star-cast of architects: a Whitman's Sampler of design (pages 64-69). The first completed project in Celebration is an office complex by Aldo Rossi of Italy, his first building in the U.S. (pages 56-63).

While the impressive array of planners and architects has tackled issues of modest-price housing in Celebration, this month's Building Types Study (Number 733) on affordable housing presents an even tougher reality, where amenity, cost-efficiency, and design sensitivity are in a constant three-way tug-of-war (pages 86-95).

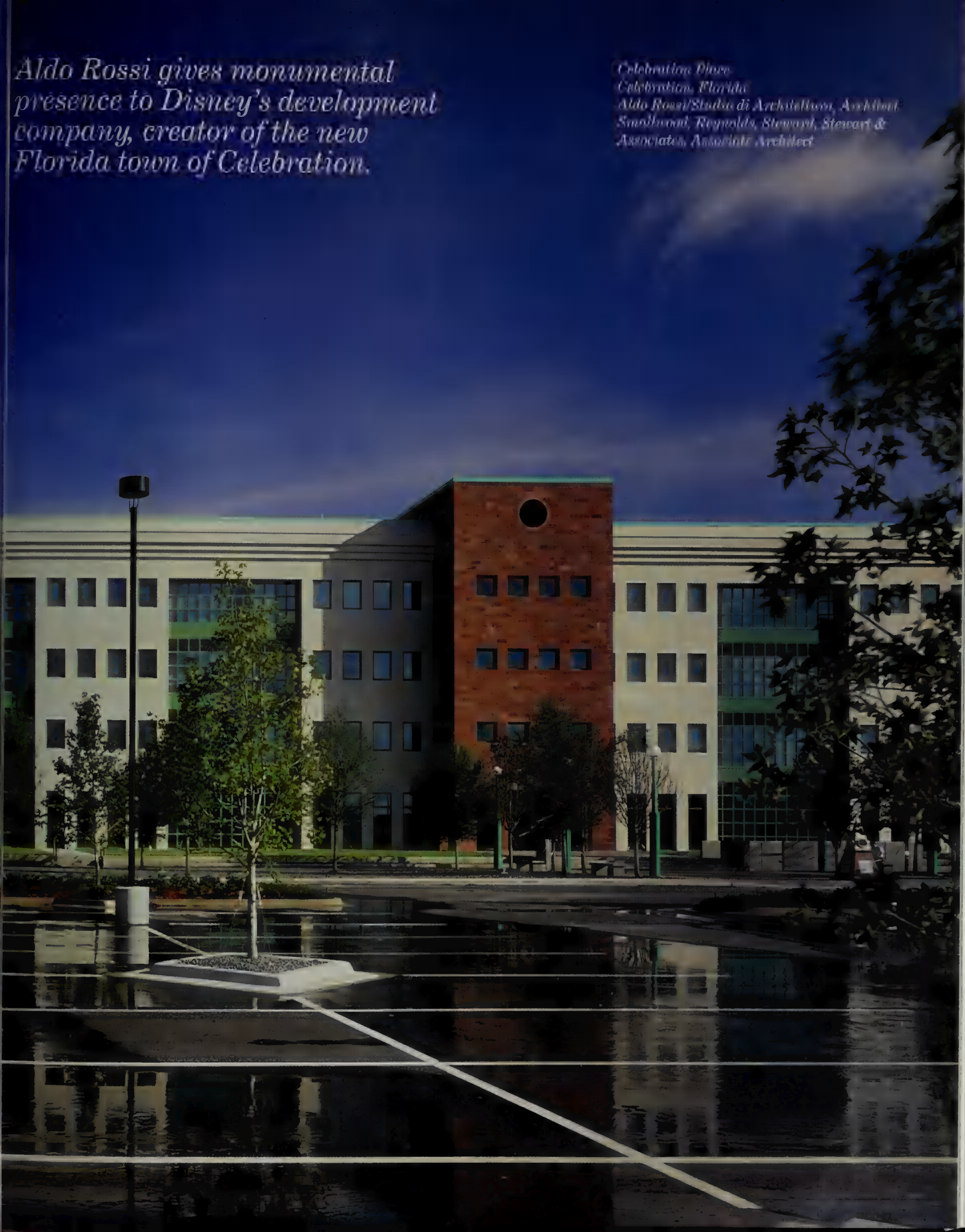
Sensitivity to an existing and beloved historical context—one that, as Aaron Betsky writes, is "an inspired merger of monastery and Mission Style"—is a recurring theme on the growing campus of Stanford University and one that San Francisco firm Tanner Leddy Maytum Stacy managed to address while producing a truly Modern addition to the school's engineering department (pages 70-75), also paving the way for Norman Foster's competition win of a medical building last month. The evolution of a different kind of campus has been the long-time preoccupation of French architect Paul Andreu, who for 30 years has helped guide the development and expansion of the Charles de Gaulle airport outside Paris (pages 76-85). His goal has been to avoid what he calls "the tendency in Modern architecture for a building to have just one unifying concept." *Karen D. Stein*

Manufacturers' Sources listed on page 96

Place Making

Aldo Rossi gives monumental presence to Disney's development company, creator of the new Florida town of Celebration.

Celebration Place
Celebration, Florida
Aldo Rossi/Studio di Architettura, Architect
Smallwood, Reynolds, Stewart, Stewart & Associates, Associate Architect



Central Florida's flat sawgrass-rimmed landscape in no way suggests the Italian town of Pisa, except to the mind of Aldo Rossi, whose leap of imagination has linked them in spirit, giving this instant town an instant landmark. The plan of Rossi's office complex, the first project to be built in the Walt Disney Company-sponsored new town of Celebration, was inspired by Pisa's main square, the *Piazza dei Miracoli* or "square of miracles," a green lawn punctuated by a sculptural mix of buildings. Rossi says the reference makes a connection between his project and "a sense of the infinite within history and nature." While only the first phase of Rossi's scheme is now complete—two contiguous buildings and a garden pavilion that temporarily occupies the site of a proposed third office block—already there's a *there* in a place that Rossi's American partner Morris Adjmi aptly calls "the middle of nowhere."

Rossi, author of the famed *The Architecture of the City*, has succeeded in injecting an urbane presence into the sprawl of highways and strip-shopping malls that surround Celebration, a satellite of Orlando and that ultimate destination, Walt Disney World. While Rossi's reputation as an ivory-tower academic might seem at odds with profit-driven Disney, his architecture proves that theorist and practitioner can co-exist. Rossi's simple but powerful forms are an artful combination of lucid and familiar shapes, are easy to build, and, given the correct choice of materials, inexpensive. (Rossi's popularity among practitioners and students of architecture in this country would suggest that his first project in the United States would be an academic institution. The economy said otherwise: Rossi's 1986 design of the School of Architecture at the University of Miami remains unbuilt for lack of funding.)

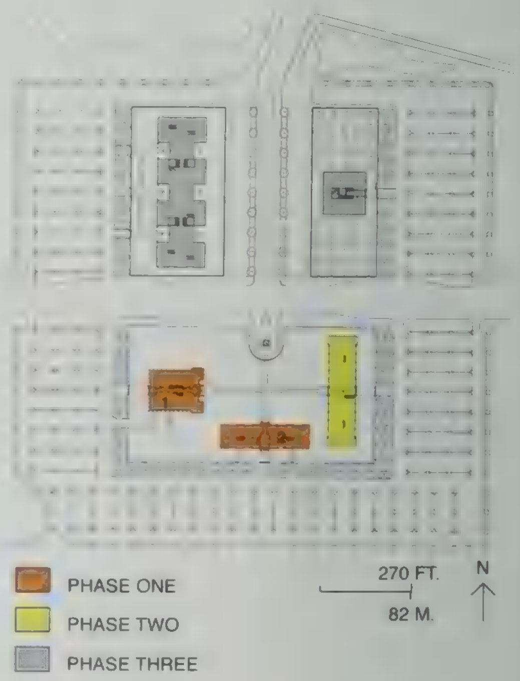
For many architects who seek to work at a scale equal to their ambitious vision, Disney, with its deep pockets and the rare inclination to invest in architecture, has become an accepted, if not coveted client. Nonetheless, Rossi's first collaboration with the company, a competition entry for the first phase of the Euro Disney amusement park and resort in 1988, did not yield built results. Rossi's interest in American vernacular styles seemed to dovetail nicely with the company's mandate for themed entertainment. During design development of the Hotel New Orleans, however, Rossi balked at a process that ranked the architect somewhere amidst consultants and efficiency experts. The parting was amicable. Three years later, an office building, with its more obvious program requirements and straightforward floorplates, reunited client and architect in their traditional roles.

Though Rossi was unaware of the specific plans for Celebration as his project began [see the article that follows for an overview of Celebration], his complex, located just south of a highway, has proved to be an effective billboard of sorts for the town that is sprouting up just beyond the confines of his 30-acre site. The two buildings, with their giant-scale column grids and hefty cornice lines, convey a seriousness of purpose ideally suited to a $2.5-billion development that Disney hopes will serve as a model for future new towns. The buildings are also an apt symbol for a principal tenant, the Disney Development Company, which, led by its president Peter Rummell and chief architect Wing Chao, has invested millions on famous and not-so-famous architects and continues to commission projects at a prodigious rate, banking on architecture as a sellable attraction. For Rossi the commission has a more poetic connotation: "I've come to understand the vastness of America." *Karen D. Stein*

Up Close

Planning for the future. Aldo Rossi's masterplan for the Celebration Place office complex (drawing below) calls for replacing the demountable garden pavilion or "folly" (at left in photo opposite bottom) with a bar-like building that completes the U-shaped ring of the first phase. Eventually, two structures will be added across the street—a total of five buildings on a grassy plain criss-crossed by pedestrian walkways and surrounded by parking lots. Rossi and the New York City outpost of his Milan-based Studio di Architettura studied several planning and massing scenarios, including a scheme to locate the office blocks atop a shared parking base, an approach that would have enhanced the monumentality of the complex.

While Rossi favored the plinth in other projects he was developing at the time—the Hotel Il Palazzo in Fukuoka, Japan [RECORD, May 1990, pages 70-78], and the still unbuilt School of Architecture at the University of Miami—the cost of subterranean construction was out of line with the modest Disney budget. (The two completed buildings came in at $65 per square foot for the shells and lobbies. Associate architect Smallwood, Reynolds, Stewart, Stewart & Associates did the interiors.) Other proposals discarded after closer scrutiny, reports Rossi's partner Morris Adjmi, include adding a road on axis into the courtyard. "Too rigid," says Adjmi.



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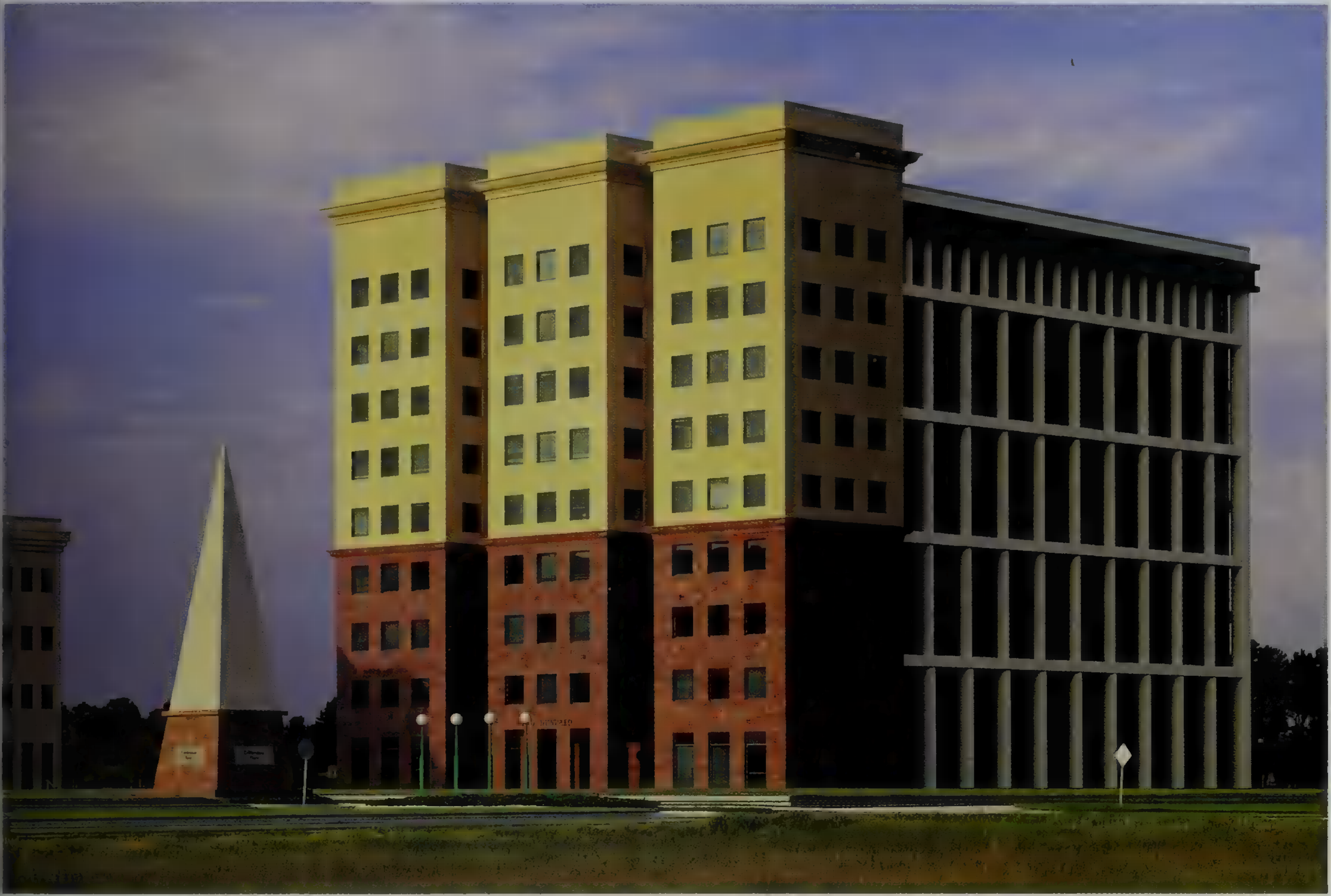
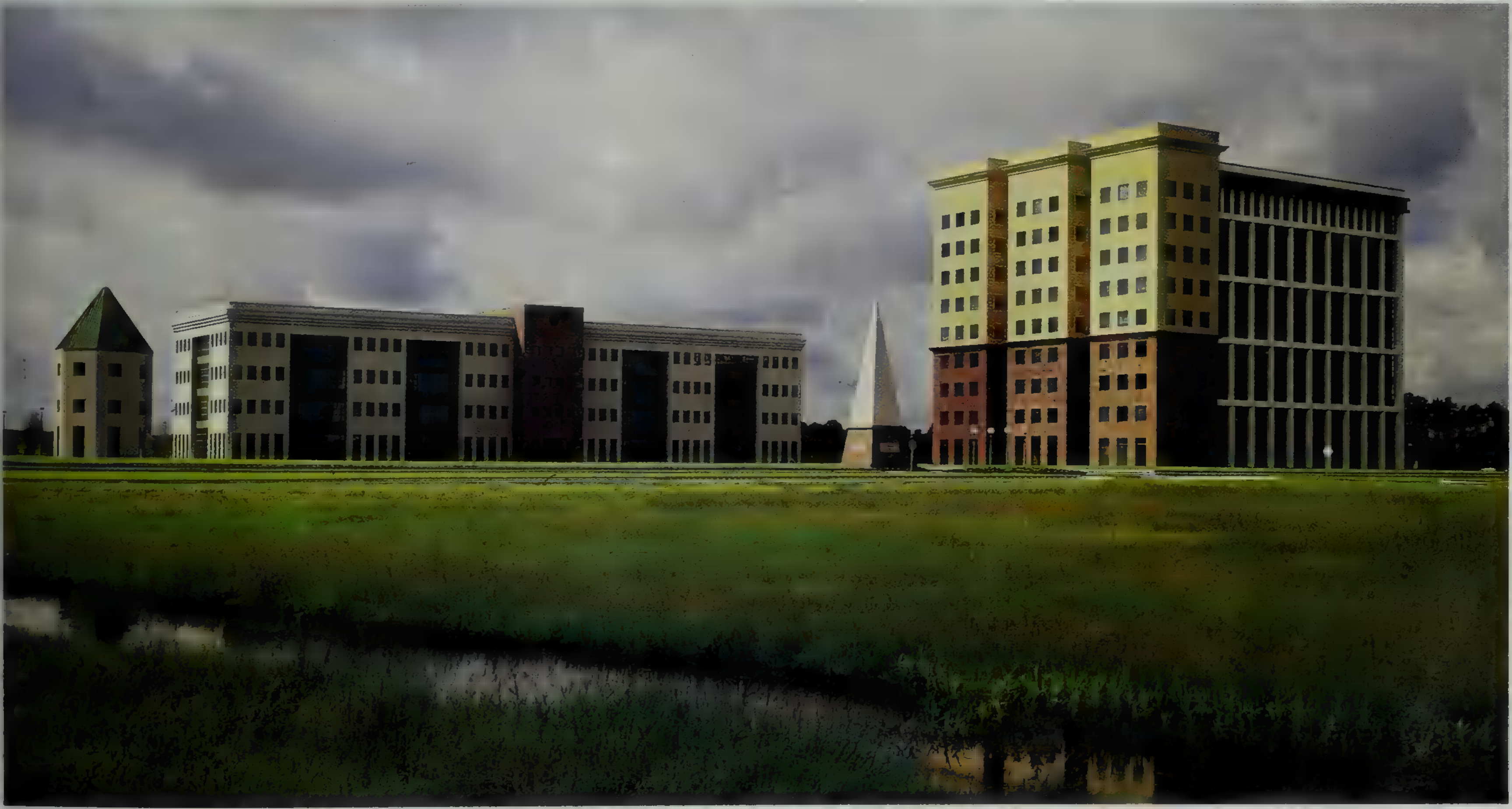
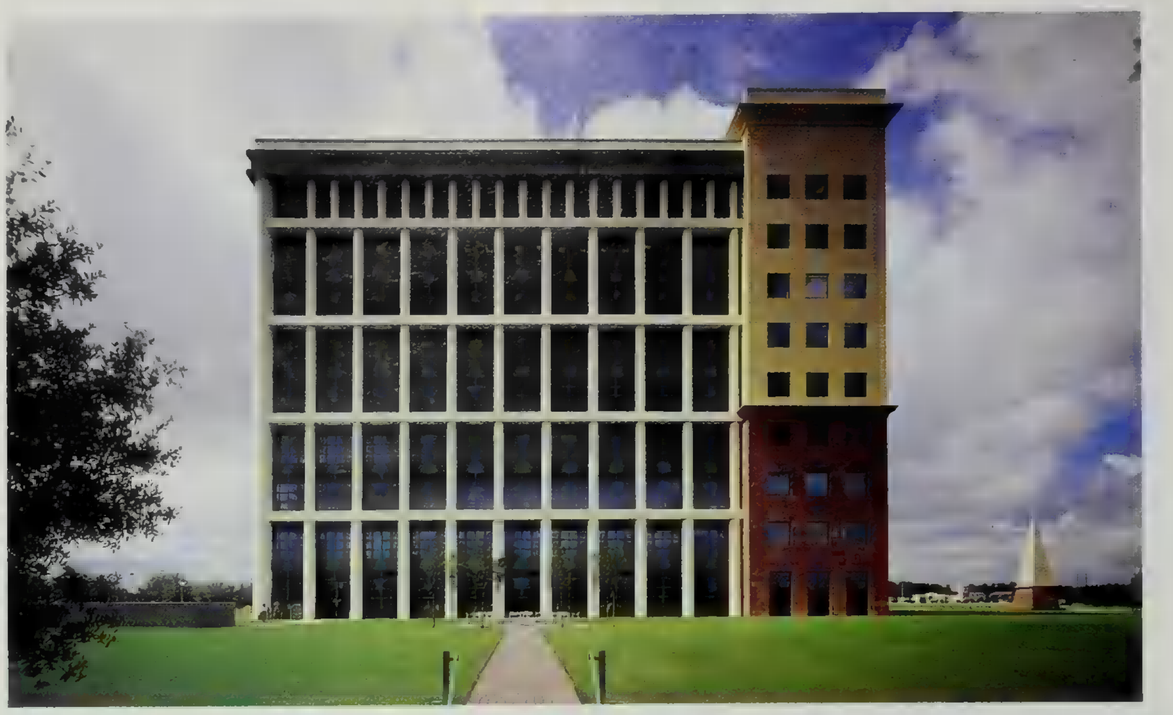
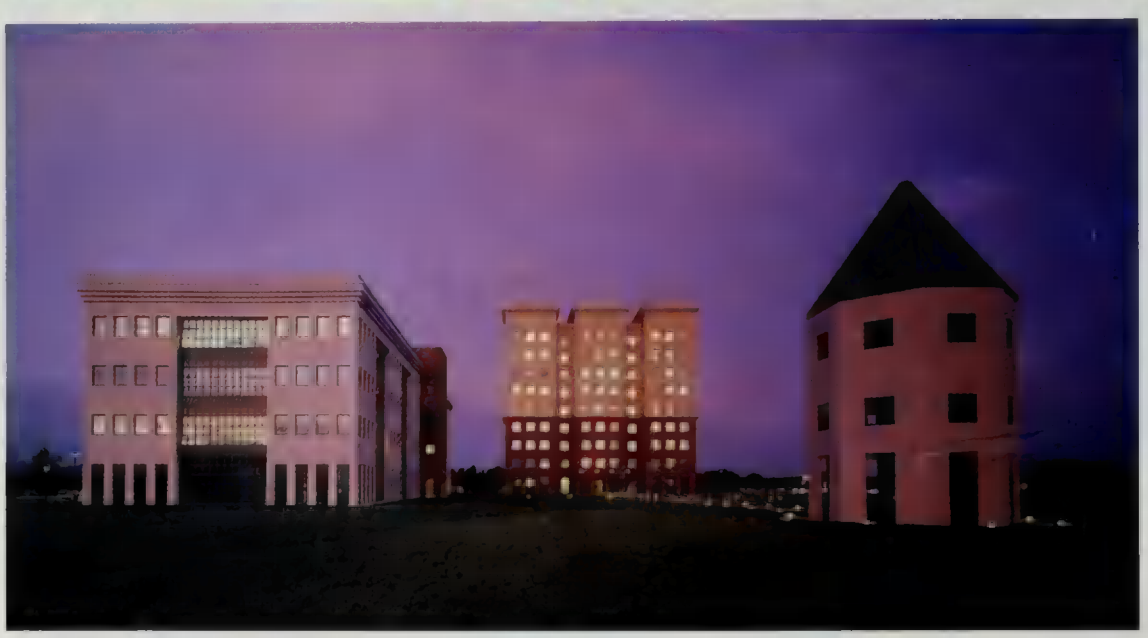
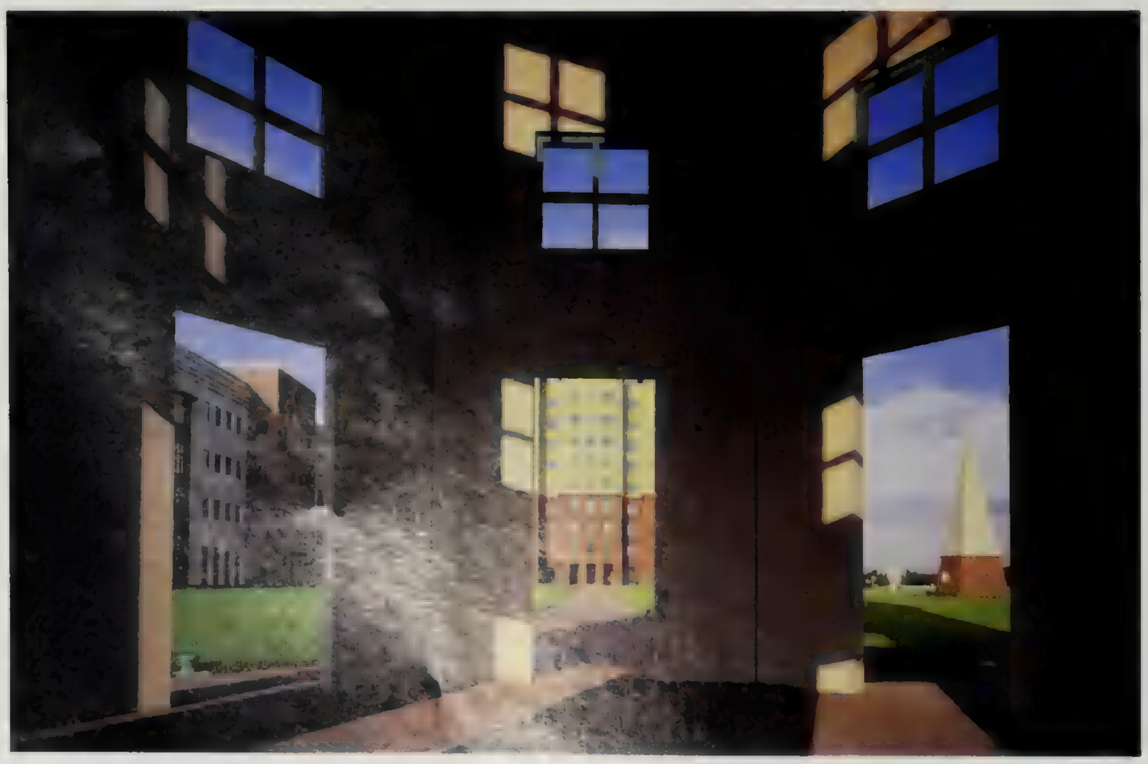






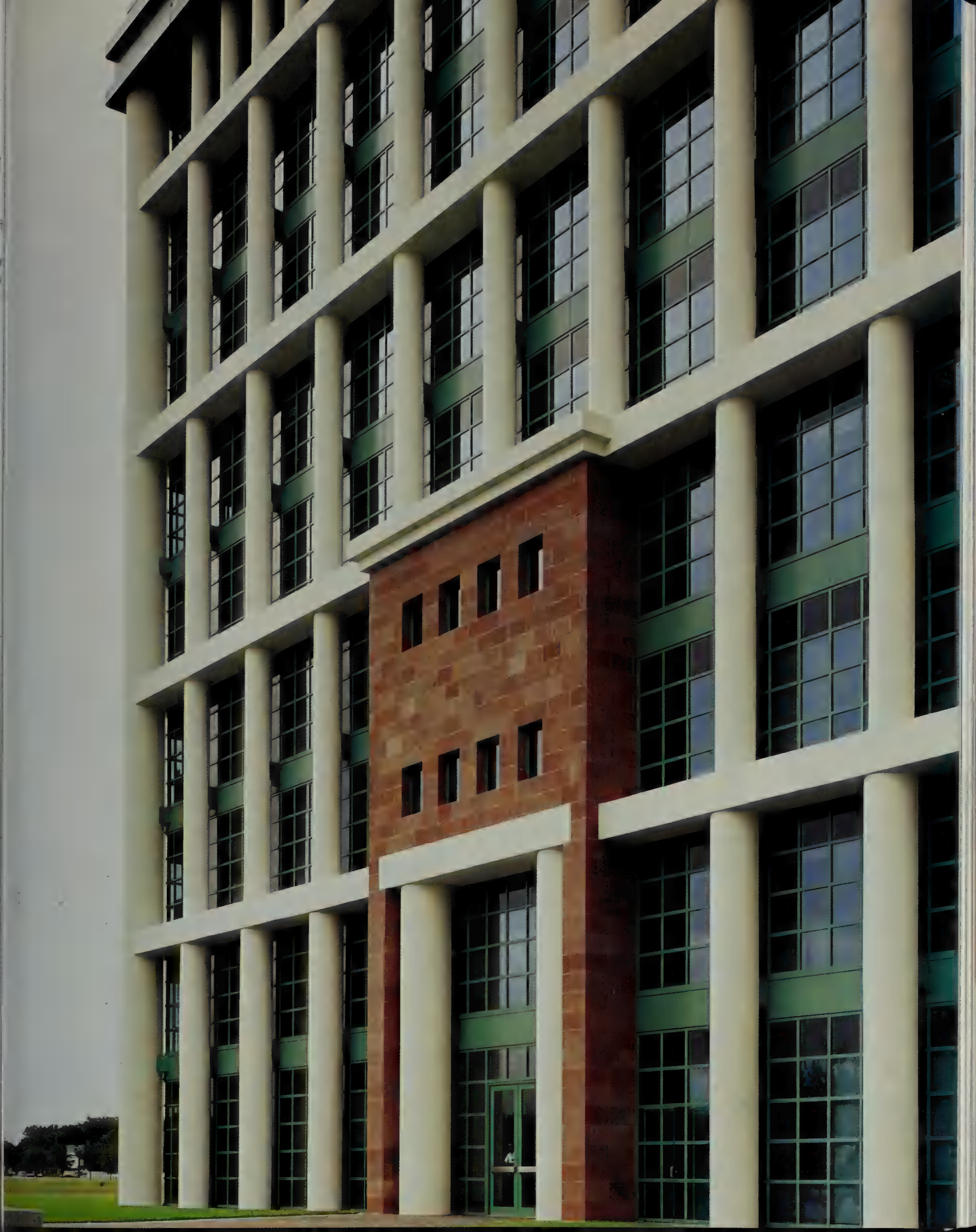


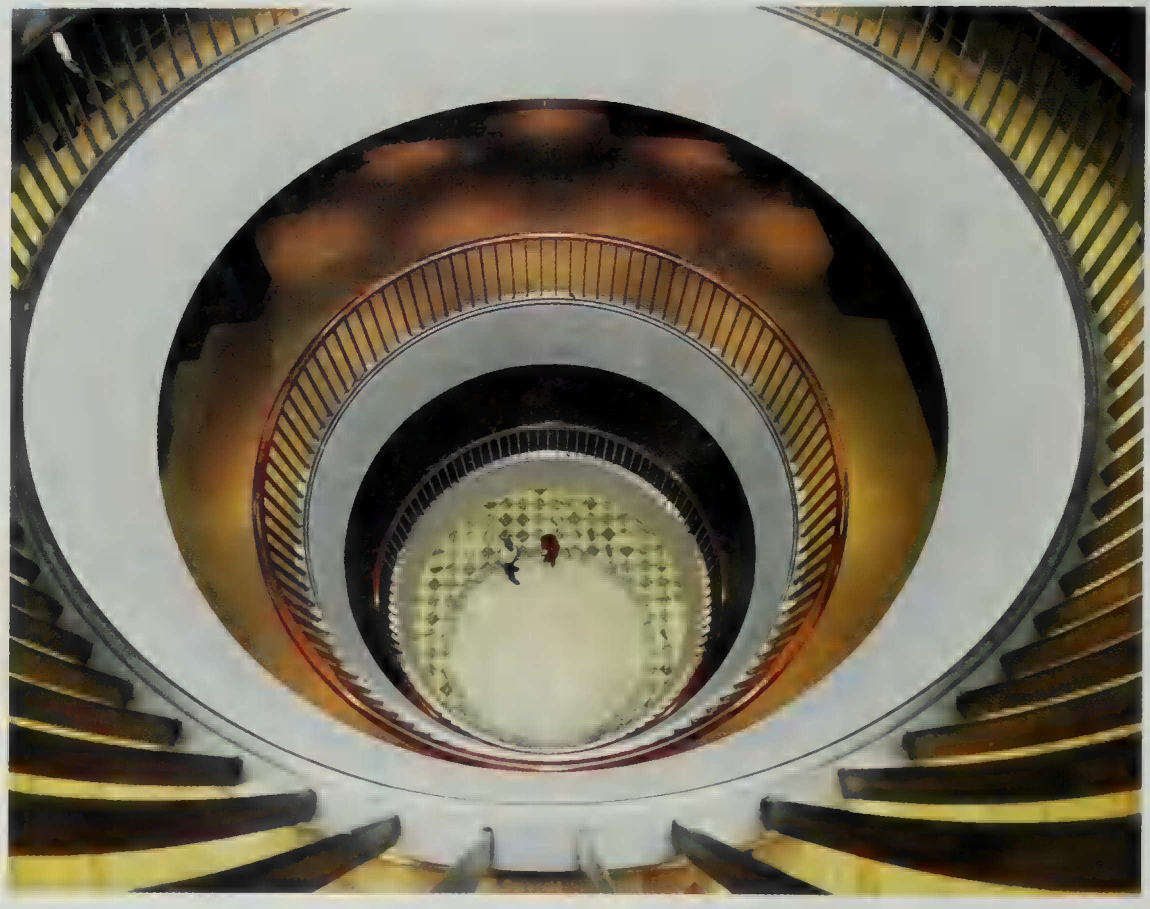


The complex occupies a 30-acre parcel south of highway 192 leading to Orlando and consists of the 180,000-square-foot 200 Celebration Place (opposite, top left, and center of middle photo), used as headquarters for the Disney Development Company (DDC), and the 60,000-square-foot 210 Celebration Place (at left in middle photo), which combines Disney offices with leasable space. A garden pavilion (bottom left), sits on the site of a future office block.

Building materials for the DDC headquarters include white-painted precast concrete columns that frame a curtain-wall and a frontispiece of yellow-tinted precast concrete panels atop a base of ruddy Colorado sandstone. The second building is a combination of precast concrete panels, an aluminum curtain wall, and sandstone accents. Osceola County code required protection against excessive heat gain and glare; a green-tinted glass with a reflective coating was used.

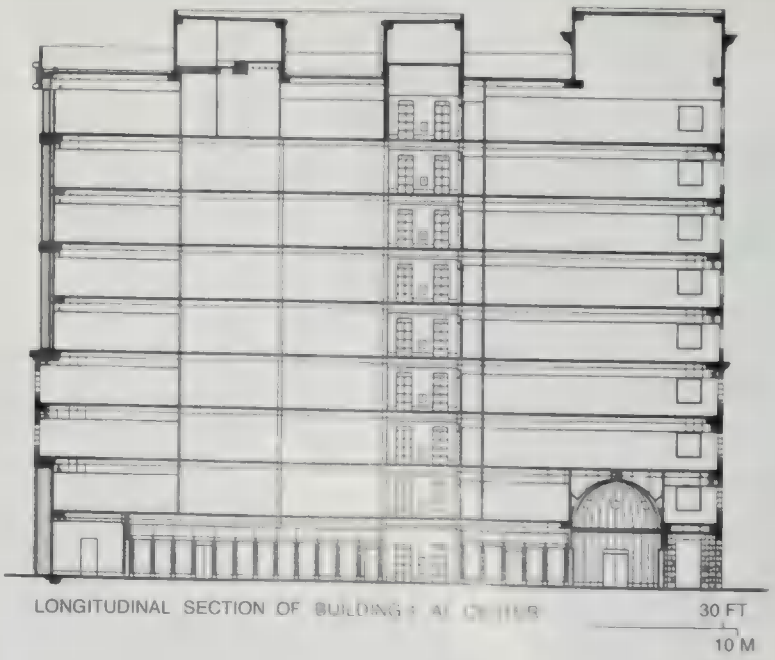
The aluminum roof of the three-story pre-cast concrete panel garden "folly," as the architects call it, was built in sections so the entire structure could be dismantled and moved to another location when the second phase of construction begins.





Each lobby has a central gathe ing place that leads via elevato to straightforward floorplates offices and support spaces. Lob finishes include Venetian tinte stucco, marble floors, cherry panels, and stainless steel.

Credits
Celebration Place
Celebration, Florida
Owner: *Disney Development Company*
Architect: *Aldo Rossi/Studio di Architettura—Aldo Rossi, Morris Adjmi, partners-in-charge; Wesley Wolfe, Erin Shilliday, project architects; David Kang, Jan Greben, Joshua Davis, project team*
Associate Architect/Interior Designer: *Smallwood, Reynolds, Stewart, Stewart & Associates—Michael Benning, principal-in-charge; William Shulman, Gerald Richrath, project architects; Wendy Mansfield, project manager/interiors; Jack Pruitt project designer/interiors*
Engineers: *Walter P. Moore & Associates (structural); Brady Angun (mechanical); Dyer, Riddle, Mills & Precourt (civil)*
Consultants: *Canin Associates (landscape); Robert J. Laughlin & Associates (lighting)*
General Contractor: *Beers Construction Co.*



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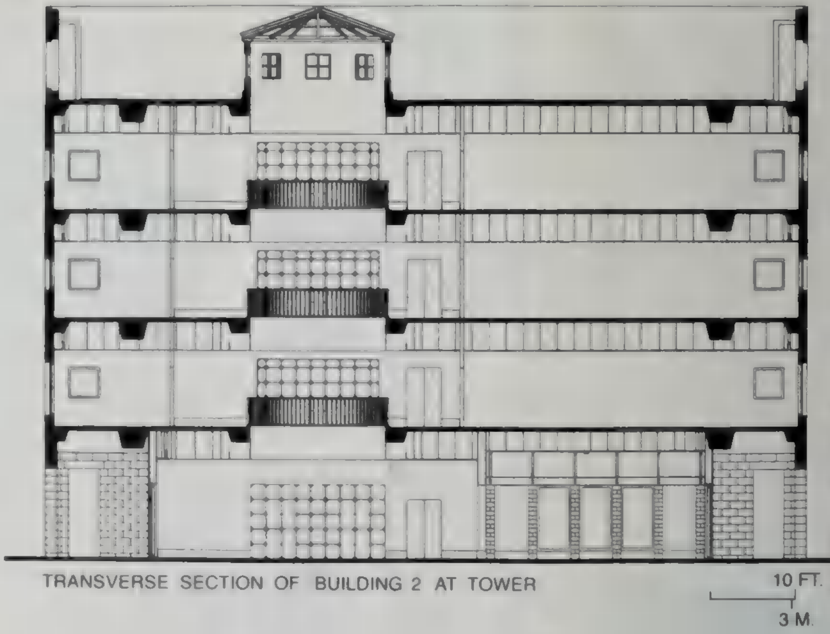
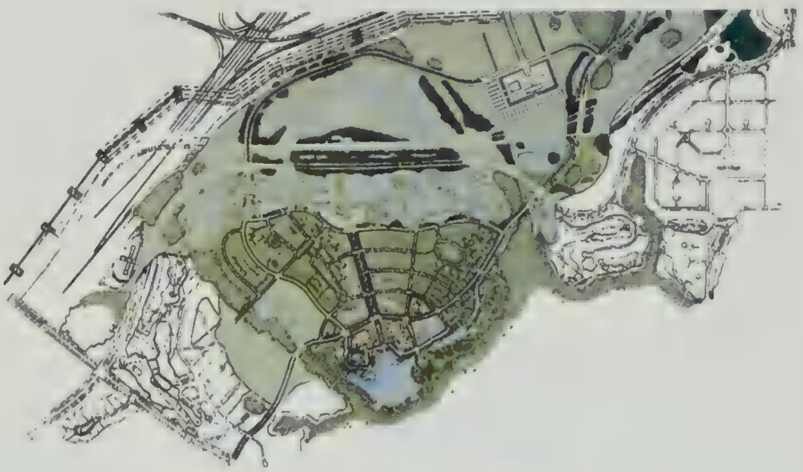


TRANSVERSE SECTION OF BUILDING 2 AT TOWER

Designs on the Future



© Smith Aerial Photography

A recent aerial photograph (above) shows downtown Celebration under construction. The new town is located near Walt Disney World and much of the surrounding area has already been developed. Celebration, however, includes protected wetlands, which will give the town a permanent greenbelt (see master plan top). Distinctive natural characteristics such as water and trees define neighborhoods. The health campus is located at the top, north edge of town; Aldo Rossi's office complex is to the northeast.

One sunny Saturday last November, a crowd gathered under a vast ten for an afternoon's entertainment. It wasn't a circus or a concert, but lottery drawing to determine who would be eligible to buy into the Walt Disney Company's new town, Celebration. Among the hopefuls, interestingly enough, were several top officials of the Disney Development Corporation (DDC). They had to take their chances just like everyone else; more than 3,500 potential home-buyers were vying for one of Celebration's first 300 houses or apartments.

Neo-traditional towns have been an important area of design and inquiry among architects for the last decade. The first of these—notably, Seaside, Florida; Kentlands, Maryland; and Laguna West, California—have garnered their share of critical and popular admiration. Now Disney is building one of its own. Despite its somewhat frivolous-sounding name, Celebration is a serious effort to grapple with ideas about the nature and future of neighborhood, community, and town planning; and it is also an effort to show that new development can be accountable to environmental and ecological concerns. It is to be, in the words of DDC vice president for community development, Don Killoren, "sustainable and holistic."

Celebration reflects its creators aspirations. Disney CEO Michael Eisner hopes that it will provide a "prototype for the millennium" by offering quality of life and intellectual content in addition to practical conveniences. Eisner pins great hopes on the school—a public experimental kindergarten through twelfth-grade institution that incorporates a teacher-training academy—as a way to set the town apart. For his part, DDC president Peter Rummell wants Celebration to change the perception of the company as a pure entertainment conglomerate: "It's going to be a place that deals with real-world issues and real-world problems, but deals with them in a relevant way."

A place called Celebration

Celebration sits just outside of the sprawling acreage known as Walt Disney World, near Orlando, Florida. Before embarking on this project, DDC got the site formally removed from the Reedy Creek Improvement District (which provides everything ranging from electric power to police protection to the Magic Kingdom, Epcot, MGM Studios, the water attractions, the offices, the shopping complexes, and the hotels). Celebration isn't part of that Disney domain; instead, it is in Osceola County, which will provide public services from sewers to schools. To build the town, Disney received the most comprehensive development permit the state of Florida had ever issued, says Tom Lewis, DDC's vice president for development.

Eventually, the town will have 8,000 houses compactly arranged around a "downtown" and more expected Florida-style amenities, such as a golf course and tennis courts; Disney is spending approximately $100 million on infrastructure and development. Celebration encompasses just about 10,000 acres, but of that only half is buildable. The rest is protected wetlands, and home to numerous protected animal and plant species. The town will have eight miles of trails for hiking or biking, a model school with the latest in educational equipment, and a "health campus" that is both fitness center and hospital. It already has its own zip code, Celebration, Florida, 34747.

All images in this article ©The Walt Disney

"The combination of celebrated architects with the less well-known (and the corresponding combination of instant landmarks with modest vernacular buildings) makes [Disney's new] town kind of a Columbus, Indiana, meets Columbus, Georgia," writes Beth Dunlop.

n the role of master-planners

Celebration's chief architects are Robert A.M. Stern and Jaquelin Robertson, who not only created the town plan, but are also carefully nurturing it into being. The plan itself is derived from a number of small-town sources, but it is also adapted to its boggy tropical terrain. It springs, too, from a number of philosophical and pragmatic ideas about American town planning, from the sequence of spaces to the role of the backyard. Stern, who, not incidentally, is also a member of the company's board of directors, and Robertson are shepherding this town into being with such thoroughness that they have even had a hand in the design of the light fixtures and street signs to be sure they "say Celebration," at least symbolically.

Their design for Celebration is not, its authors say, "ideological," but rather based on the idea that the best American towns are also, in Robertson's words, "places people love to go to." Of course, Walt Disney World is the most-visited place in the known universe, so Celebration has a head start. To begin with, 27,000 visitors stopped in at the cleverly designed information center (by the graphics and design firm, Pentagram) within the first three months it was open.

Crossbreeding, Celebration-style

The town will have compact neighborhoods and house designs drawn from a host of recast historicist Southern regional styles. Robertson terms this "the crossbreeding of architecture styles in America." Modernism is noticeably absent; Stern and Robertson believe that American small towns lost their vitality after World War II. Maintains Robertson: "Celebration is really a kind of a testimony to that crossbreeding and our kind of editing and selection of those town settings that we thought were most successful and most emblematic."

Celebration also boasts an exclusive, marquee-level cast of architects. The plan from Stern and Robertson had early contributions by Duany and Plater-Zyberk Architects, and Gwathmey Siegel and Associates. The town hall was designed by Philip Johnson. Next door will be a post office by Michael Graves. Robert Venturi and Denise Scott Brown are designing the bank; Cesar Pelli & Associates, the cinema, and Graham Gund, a hotel. William Rawn has designed Celebration's model school. The late Charles Moore designed the town's "preview center," and it is to be built posthumously. Robertson's firm, Cooper Robertson & Partners, is designing the town's golf clubhouse.

Celebration's only completed structures—an office complex to house DDC, among other tenants—were designed by Aldo Rossi [see previous article]. Adjacent to the Rossi complex will be the health campus, which Stern is designing. Stern and Robertson have each developed a number of other town buildings, but the houses themselves will be done by many regional architects, among them Derrick Smith and Lidia Abella of Miami; McCall and Turner of Moultrie, Ga.; John Robbins of Oxford, Miss.; Al Jones of Baton Rouge; Historic Concepts, Inc. of Peachtree City, Ga.; and UDA of Pittsburgh. The combination of celebrated architects with the less well-known (and the corresponding combination of instant landmarks with modest vernacular buildings) makes the town itself kind of a Columbus, Indiana, meets Columbus, Georgia.

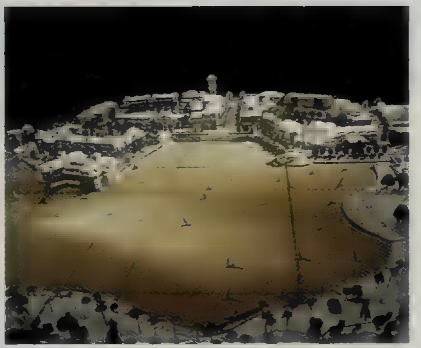
The Masterplan

Celebration's town plan is both defined and circumscribed by natural conditions. Roughly half of its 10,000 acres is protected wetlands, which creates a greenbelt and allows for uninterrupted vistas through the trees.

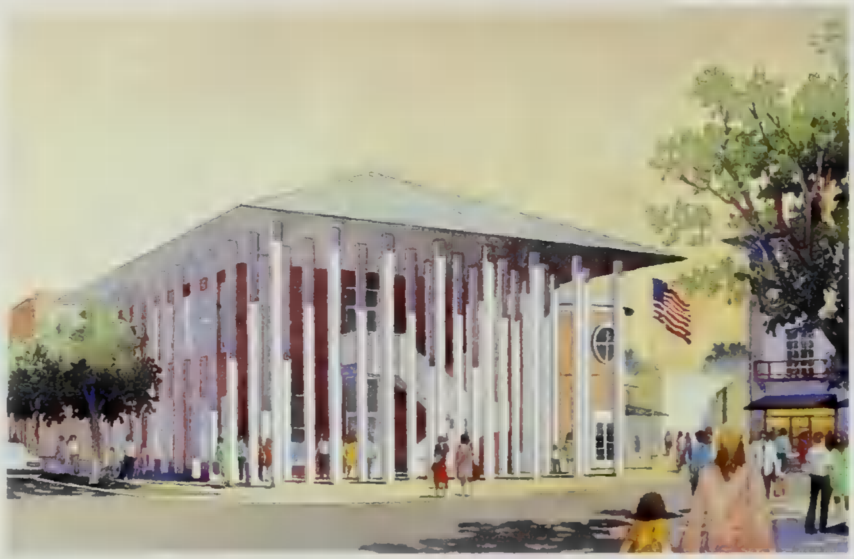
The plan focuses on a new lake, part of a system of canals and waterways that provides for storm-water runoff and gives the town a visual focal point. The town center nests along the lakefront, and the residential neighborhoods fan out from there. In Celebration's first phase of construction, everyone will be within walking distance of the shops and restaurants.

A strongly hierarchical road system gives further definition: broad boulevards; narrower, winding roads; straight streets; back alleys; pedestrian walkways; and bicycle paths. At the periphery is Golfpark Drive, with houses on one side and rolling greens on the other—a device both esthetic and democratic in intent. Leaving the golf course accessible gives Celebration a strongly defined open space so everyone—not just a privileged few who can afford adjacent houses—gets the view. Another bold gesture in the plan is the broad boulevard that cuts a swath through Celebration and is intended as the town's promenade. It is Water Street, a reference to the stream that will run through its median strip. (Celebration had to take street names that were not already in use in Osceola County, which was no small task in the generally cutesy world that is Orlando and its vicinity. Most were already in use, leaving the rather old-fashioned Sycamore, Honeysuckle, Elderberry, and Mulberry.)

Each residential neighborhood focuses on a special spatial feature: a circle, a square, a protected strand of trees, or the waterway. These features, in turn, give shape and character to their neighborhoods and, say the architects, definition and subtlety to the plan.



Instant landmarks in Celebration's downtown include (from top to bottom): the town hall by Philip Johnson (1); the post office by Michael Graves (2); and the bank by Venturi, Scott Brown & Associates (3). The buildings are under construction.



1

2

3

Celebration celebrates what its architects knew best

From the beginning, Stern and Robertson were mindful of the admonition that architects, like writers, are at their best when their work i based on what they know. Both Stern and Robertson, as New Yorker also have weekend homes in the Long Island beach town of Easthampton, a place that they both admire greatly. "Easthampton seemed to Robert and me to have almost all of the touchstones of early American urbanism in its earliest phases and yet every practic issue was addressed in the plan," said Robertson, convenience of observation notwithstanding.

Disney's in-house architects, as well as Ray Gindroz from UDA and Stern and Robertson, in fact did visit numerous early American towns, many of them in the South, as part of the extensive research done for Celebration over the past decade. One young DDC employee—armed with a recent master's in architecture and a camera—was sent off to photograph every appealing building or public space he could find in historic towns in the Southeast.

Still, unlike early American town builders, Disney had a host of regulatory issues as well as environmental and ecological considerations t grapple with, from the preservation of wetlands that are home to suc threatened or endangered species as the American bald eagle and th Florida gopher tortoise to the saving of what Stern termed the "significant trees" on the site. The saved trees gave the plan additional shape. In one spot, houses circle a cluster of trees left in place as a natural landmark. Each of Celebration's neighborhoods, in fact, revolves around what Stern terms a "significant public space."

Charming and car-friendly

Some of those public spaces—in the downtown, for example—are fully hospitable to cars. Unlike many quaint 19th-century towns with narrow, cobbled roads, Celebration's streets are engineered to accommodate automobiles. Its neighborhoods are precisely arranged to offer walking distances (between homes and shops, homes and school), a recognition of a late 20th-century suburban culture in whic people drive to the health club to walk on a treadmill or take the elevator up to climb on the stair master. "While we're all interested in traditional towns," says Stern, "this is a representation of that search to recapture the traditional town. We are all very mindful that this is being built at the end of the 20th century, so the town is traditional in spirit but modern in terms of what we know about how people live."

Thus, though outwardly Celebration will rely on a host of architectural and symbolic gestures to the past, signs of being high-tech, in fact, abound. Each of its eventual 8,000 houses will be linked to the outside world (town hall, hospital, school) by an advanced fiber-optic system. The school (run jointly by Osceola County and Stetson University) is to get an infusion of the latest equipment and technology from Disney

The plan places special emphasis on returning streets and sidewalks to the public realm. The main street, called Water Street (Osceola County already had a "Main Street" and Celebration couldn't reuse the name), is conceived as a broad, tree-lined boulevard, "the town stroll." The peripheral road, called Golfpark Drive, has houses only o one side as in Easthampton, and the golf course is entirely visible from the road—making it public green space, at least visually. Special attention was paid to the design of the 15-foot-wide sidewalks, which Stern calls "the principle component of the public realm." Stern and Robertson were adamant about the inclusion of alleys for a host of architectural and sociological reasons. Robertson likes to think of many of the town's elements—the golf course with no houses fronting on it or the alleys—as "radical old notions" of town planning.

The downtown is conceived as an old-fashioned town center, with a combination of commercial, office, and residential space. The town hall, post office, bank, and preview center are all intended as civic standouts, buildings that will be recognized by and, it is hoped, for their architecture. Stern and Robertson are providing the fabric around the landmarks: they essentially divvied up the rest of the downtown buildings half-and-half, and they are cloaked in the hybrid American style that conjures up lots of non-specific memories. "We predicated our design on the notion that American towns had a life before the 1940s, basically, up until World War II, so the buildings take their inspiration up to the 1940s," says Stern.

Designing by the book

The architects and builders of Celebration's houses must work within the guidelines of a hefty and handsome "pattern book," based on similar books published in the early part of this century. Pittsburgh architect Ray Gindroz, of the firm Urban Design Associates, is its author. It delineates the basic elements of "the Celebration house"—front facade, back yard, side wings, porches—and outlines the six architectural styles and possible configurations allowed in the town's first phase. The styles are defined as Classical, Victorian, Colonial Revival, Coastal, Mediterranean, and French. The pattern book is a kit of parts in a way, with numerous potential combinations of roof profiles, finish materials, windows, and ornament. "Instead of telling people what they shouldn't do, we are telling people what they can do," said Gindroz.

Some buyers at Celebration may bring in his their own architects, while others will choose from those offered by the developers. Everybody, though, must respect such rules as the height of the cornice line ("absolutely critical in creating the quality of the public space," claims Gindroz) and the placement of fences and hedges along the street. Although, Celebration is a town in name, it will not immediately be self-governed (Disney will own most of the public space and all of the commercial buildings); thus, strict controls can be kept over paint colors, renovations, and even the placement of screened porches and pool enclosures.

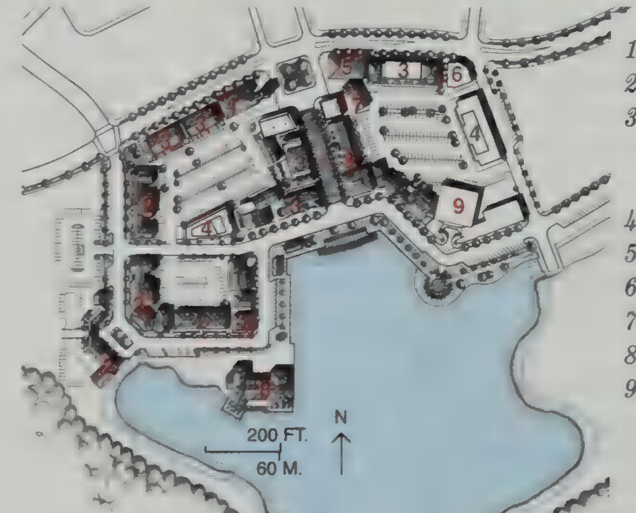
A highway runs through it

Its site has a certain high visibility. It is just off Highway 192, the southerly approach to Walt Disney World and a road lined with every imaginable (and some likely beyond easy imagining) fast-food restaurant, motel chain, souvenir shop, themed shopping center, and family entertainment offering. Stern calls it "the sleaze road of all times." Rossi's rather sophisticated office complex sits along Highway 192, as will Stern's hospital. After DDC had designated this off-site site for

Downtown Celebration

Downtown Celebration is intended as a place to live, work, shop, eat, and play. It is also conceived as an ode to late 20th-century architecture: its primary buildings have been designed by architects who achieved fame in the 1970s and 80's. It includes a town hall by Philip Johnson, a post office by Michael Graves, a bank by Robert Venturi and Denise Scott Brown, a cinema by Cesar Pelli, and a "preview center" by the late Charles Moore. Most of the other downtown buildings are by the firms of Celebration's chief planners Robert A.M. Stern and Jaquelin Robertson. An inn, not in the first phase, is by Graham Gund.

The all-star lineup was the brainchild of Disney's chief architect Wing Chao. He told Disney CEO Michael Eisner and DDC president Peter Rummell that since the town would be in the spotlight "we needed an all-star team for our first line-up, if you'll forgive the football analogy." Eisner says he "loved the idea of having us challenged by others on the outside and being pushed to excellence"



1. *Retail*
2. *Apartments*
3. *Retail below/ apartments above*
4. *Offices*
5. *Town Hall*
6. *Bank*
7. *Post Office*
8. *Inn*
9. *Cinema*

Celebration, the Florida Department of Transportation decided it needed to run a connector road through it, which will separate the town from the office complex and hospital. The addition of this road makes Celebration at once more accessible to the outside world and less so, in that it will be difficult to go on foot to and from the adjacent health facilities and office buildings. The new road is, at best, a mixed blessing and one that gives Celebration a full-fledged late 20th-century pedigree, the new town by the expressway.

Model town or company town?

And unlike many new housing developments, Celebration is not a gated community, nor is it oppressively expensive. "Our emphasis," says Killoren, "is on diversity. We don't have distinctions between the haves and have-nots here." Indeed, at Celebration, the top-end lots (called "estate" lots) are a stone's throw from the townhouses, which will sell for prices ranging upwards of $120,000, and rental apartments downtown. Still, a criticism leveled by some is that even at that lowest price range, Celebration-living is out of reach for many of Disney's low-end employees. "It is not a cure-all," says Eisner. "It's a way of trying to make a town."

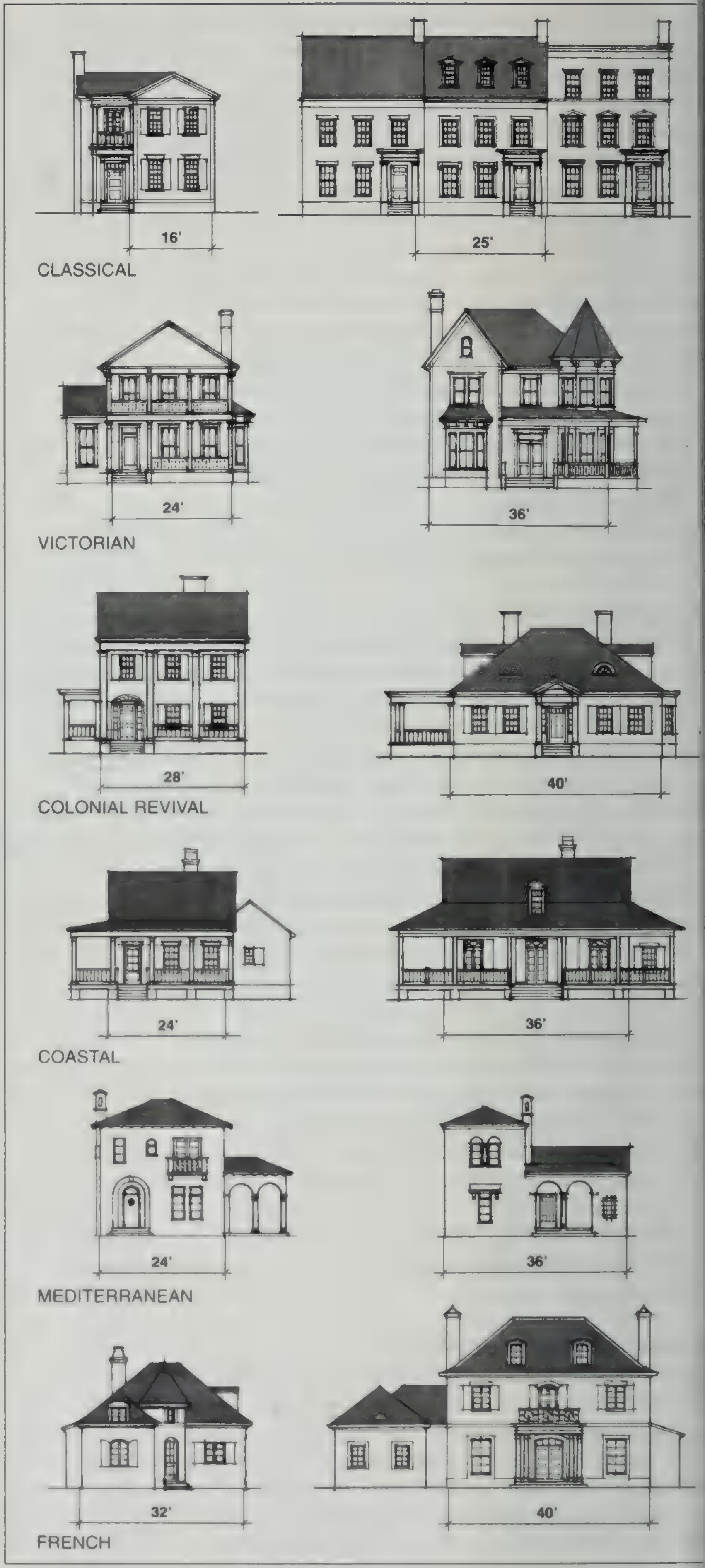
Disney, for its part, is adamant about not letting this be a company town. The philosophical emphasis on diversity means more than just economic or ethnic diversity, which is why employees had to take their chances in the lottery just like everybody else (a father of three, DDC's Killoren, for example, drew number 97 in the estate lots lottery; another top DDC executive wanted a cottage lot and most likely won't get it on the first round).

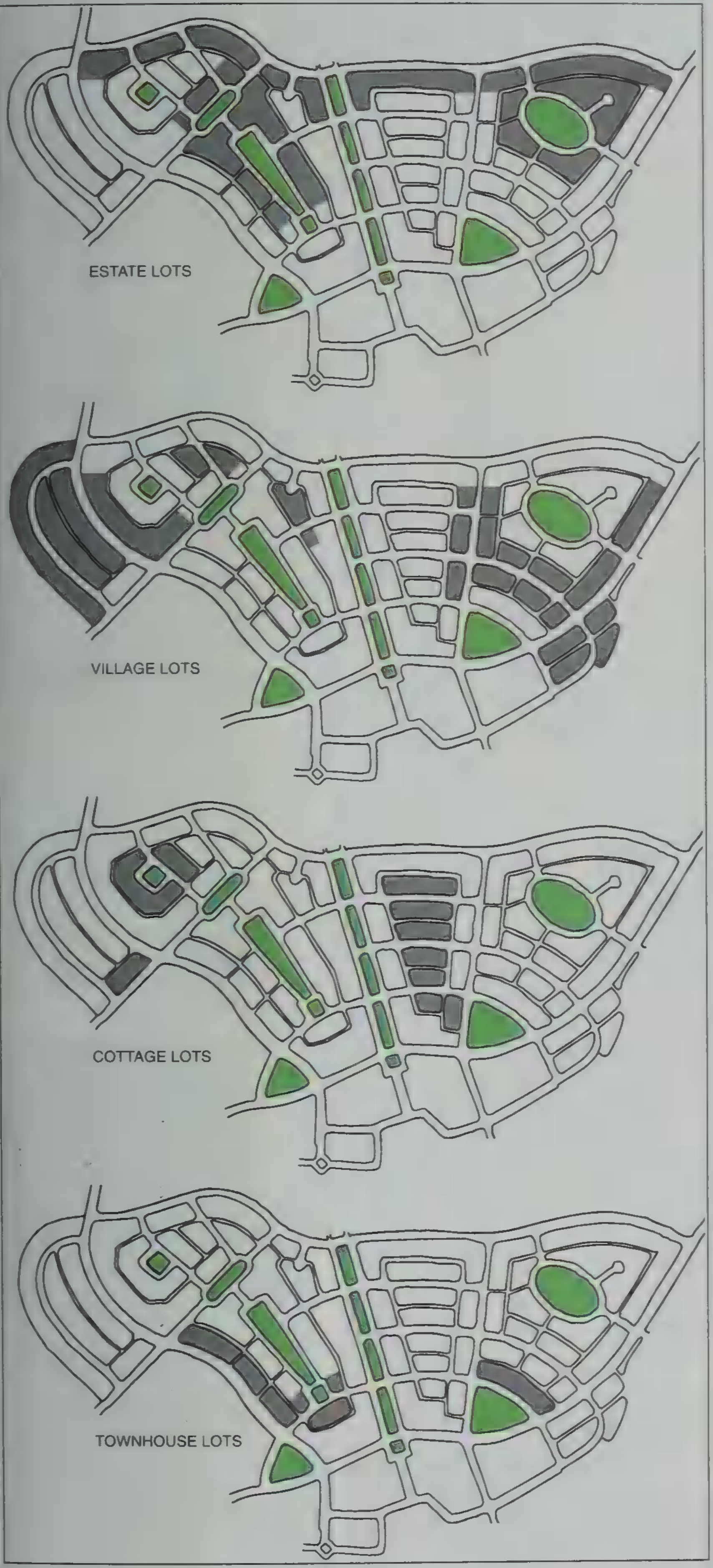
The future resembles the past

All of Disney's theme-park environments—from the various "lands" and rides to the hotels—are somehow idealized. When Walt Disney designed the first Main Street for Disneyland in 1955, he said he was basing it on his hometown of Marcelline, Missouri, but Disney was idealizing the turn-of-the-century American small town main street, turning fact into fiction. A decade later, in the mid-1960s when Walt Disney was buying up Central Florida swampland for his second theme park venture, his interests had jumped from past to future. His goal was a futuristic model community he called EPCOT (originally, EPCOT was an acronym for Experimental Prototype Community of Tomorrow). Thus, while others were drawing up Main Street and Cinderella's castle, he was thinking bigger thoughts about finding a solution to urban chaos. He envisioned EPCOT sitting under a bubble of glass, with high-speed monorails zipping residents of this high-tech town from home to work and back again—a sleek and hermetic world of the future. Disney's idea died with him in 1966.

But now we know the future is, at least partly, in the past and it's to be found at Celebration, not at EPCOT. Says Stern: "Ironically, it is Main Street [in the Magic Kingdom] that was the actual genius of American urbanism recaptured." Now Main Street, Disney-style, moves into the mainstream in Celebration where, perhaps, the process will be reversed, and the fiction and fantasy of small-town life will be turned back into fact. *Beth Dunlop*

Six styles of houses (below) and four lot sizes (below opposite) have been pre-approved for the residential neighborhoods. The variations of each style are reviewed in a pattern book prepared by "Master Code Consultant" UDA Architects, a Pittsburgh firm.





Residential Neighborhoods

Celebration's residential structures are governed by a hefty, 74-page, portfolio-size "pattern book," based on similar guidelines published early in the century. The book is largely the work of Ray Gindroz of the Pittsburgh firm, Urban Design Associates, in association with Disney Development Corporation, Robert A.M. Stern Architects, and Cooper Robertson & Partners.

The pattern book is not simply a blueprint. It sets forth the philosophical, historical, and architectural premises that inspired Celebration and establishes some basic principles and definitions to guide all development.

A number of elements of the town are strictly controlled, among them the building massing, the placement of side wings and porches, the height of the cornice line. The urbanism of Celebration depends on the relationship of house and yard (bounded by a fence or hedge) to the sidewalk. The pattern book prescribes this relationship to create a clear distinction between the private, domestic realm of the house and the public realm of streets, sidewalks, and squares.

Celebration will have six accepted building styles—Classical, Victorian, Colonial Revival, Coastal (a melding of French Colonial and "low country" architectural traditions), Mediterranean, and French. The styles are drawn from Southern domestic and vernacular architecture, and are the result of studying such towns as Charleston, Beaufort, and Mount Pleasant, S.C. Early buyers seemed to favor the Coastal house, with its wraparound porches, and the somewhat grander Classical models.

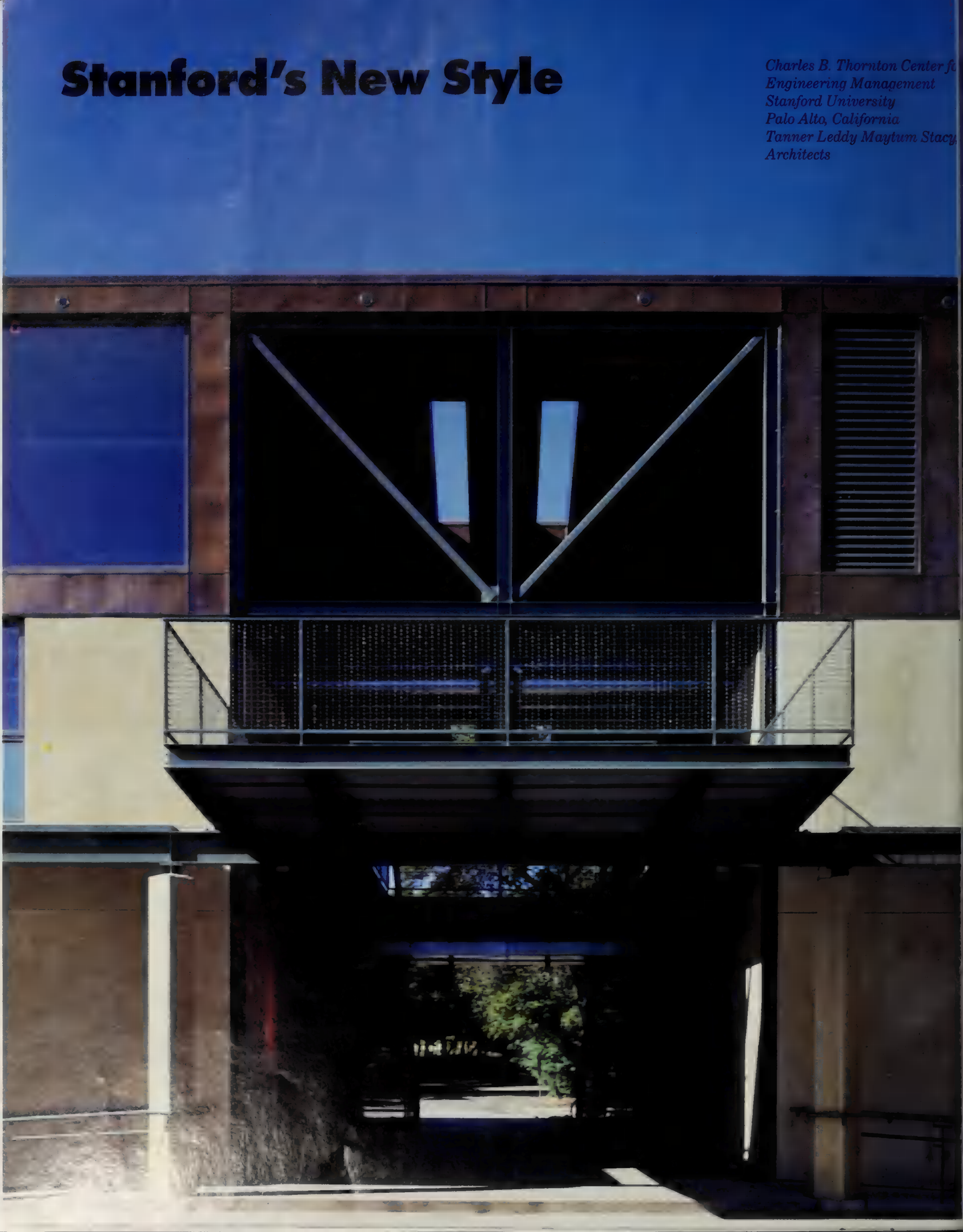
Celebration's houses will not necessarily be true styles, letter-perfect in their authenticity. Rather, they will be composites of those typically found in small-town neighborhoods that have evolved over the years, though the pattern book carefully lays out mandatory "key elements" and appropriate detailing for each style. Within this are endless combinations of windows and doors, porches, and loggias.

To add to the mix, there are four basic sizes of Celebration lots: "estate" (though presiding over lots typically 90 by 130 feet and not, as the name suggests, vast rolling acreage), "village" (to accommodate a regular house), "cottage" (for a slightly smaller "empty nest" or "starter" house) and "townhouse."

The pattern book also spells out acceptable materials, which intentionally differ somewhat among the styles to provide texture to each neighborhood. There is also a palette of approved Celebration paint colors and a guide to preferred plants and trees. All of this is aimed at achieving the tricky balance of making Celebration seem at once coherent and diverse, as if the town simply grew all on its own.

Stanford's New Style

Charles B. Thornton Center fo
Engineering Management
Stanford University
Palo Alto, California
Tanner Leddy Maytum Stacy,
Architects



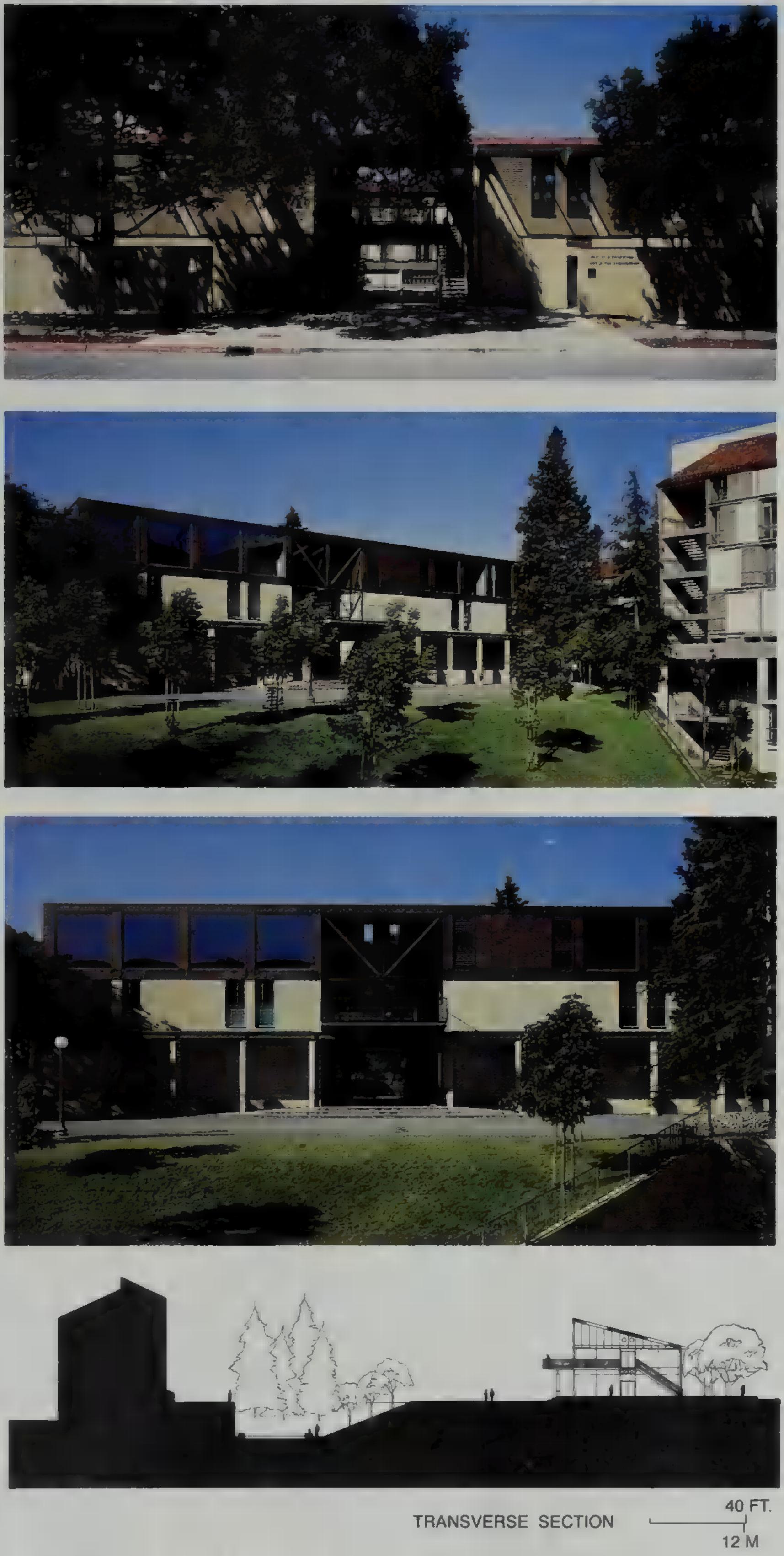
ucco walls and red-tile roofs, arches and colonnades, courtyards filled with live oak trees: that's the idiom of Stanford University. Ever since it was founded by Leland Stanford in 1885, and laid out by Frederick Law Olmsted with buildings by Shepley, Rutan & Coolidge in an inspired merger of monastery and Mission style, architects have been trying to figure out how to adapt the imagery of one of the country's most prestigious academic institutions to changing uses, technologies, and perceptions. Now a new slate of buildings is modernizing the vocabulary with some unexpected materials. Under the direction of Campus Architect David Neuman, who previously turned the University of California at Irvine into an architectural showpiece, Stanford has hired the likes of Robert A.M. Stern, Antoine Predock, Ricardo Legoretta, and Henry Cobb of Pei, Cobb, Freed & Partners to expand its architectural vision. The harbinger of this wave is a simple shed designed by Bill Leddy of the San Francisco firm, Tanner Leddy Maytum Stacy.

The Charles B. Thornton Center for Engineering Management is a 2,000-square-foot addition to the 1977 Frederick Emmons Termon Engineering Building. Designed by Harry Weese, this much beloved by its inhabitants) essay in "engineers' esthetic" itself tried to update the vocabulary of the campus with clearly expressed concrete trays framing a skin that appears to be almost wholly made up of wood shutters. To fit into the campus, Weese sunk the large building two floors into the ground, creating a light well of the garden in the rear. Leddy's challenge was to add room for Stanford's innovative design program, which is a joint venture between the art, engineering, and business schools.

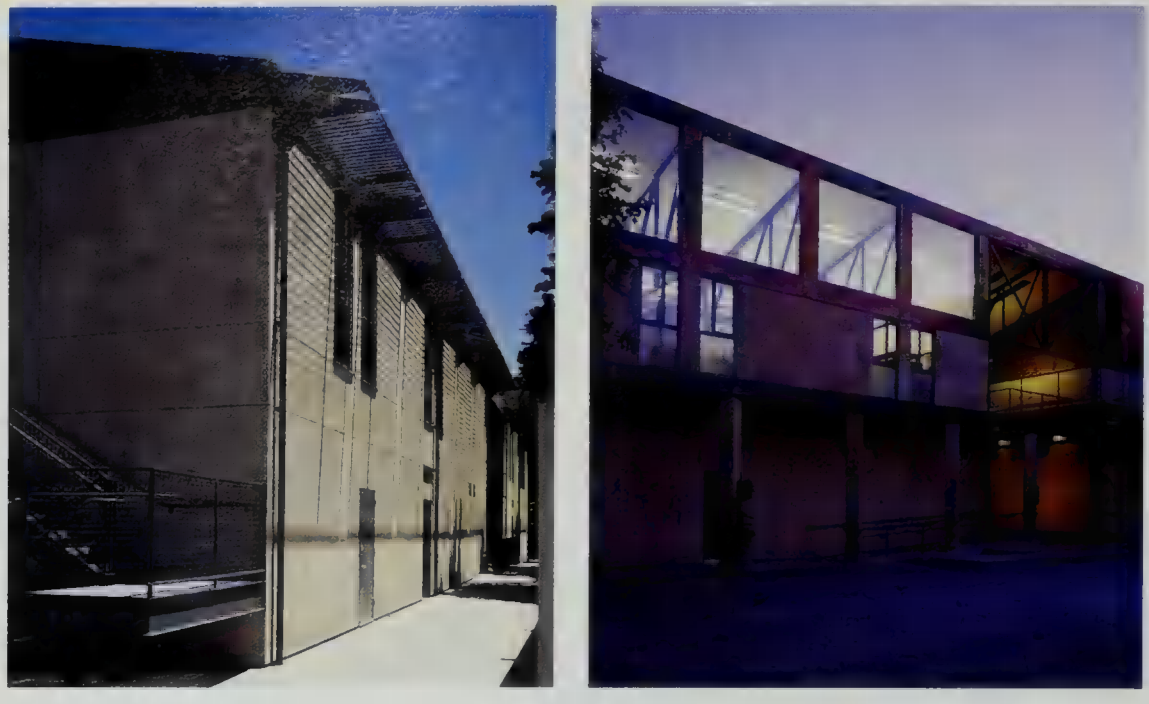
The site defined the building. "We soon realized that it was more about the space between the two buildings than about the envelope," recalls Leddy. This fit Neuman's philosophy, since he believes that the landscape is almost as important as the buildings themselves. "It's what our alumni remember, it's what sets the character of the campus." Leddy placed the building—two state-of-the-art "case study" classrooms outfitted "almost like broadcast studios" and two loft-like design studios—in a rectangular volume packed between an access road to the west and a grove of oak trees to the east. To the south, the Thornton Center presents a simple, low facade, "setting the stage for the development of the campus across the street," as Neuman puts it. The building rises up on the north side both to catch light for the studios and to answer the scale of the Terman Building. Working with landscape architect Peter Walker, Leddy then reconfigured the sunken courtyard into an open, sloping outdoor room.

The Thornton Center's main feature is its central gateway. This is an updated version of the rhythm of great arches that march through the campus, and that had already found a more rectilinear expression in the Terman Building. The portal is not just an expressive framing device: by using it for external circulation, Leddy avoided the need for interior corridors. The steel trusses that frame the stairs provide lateral seismic bracing. "This is what I think of as the strength of Tanner Leddy Maytum Stacy's work," says Neuman. "They give you an artistic expression of structural elements that allow for a simplicity of use, and that makes the building easy to understand at every level." Carried out in an "updated version of the Stanford vocabulary," as he puts it, the Thornton Center is a steel, stucco, concrete, and copper emblem of the architectural craft, and a clear representation of the reality of site, function, and the aspirations of the client.
Aaron Betsky

© Richard Barnes photos



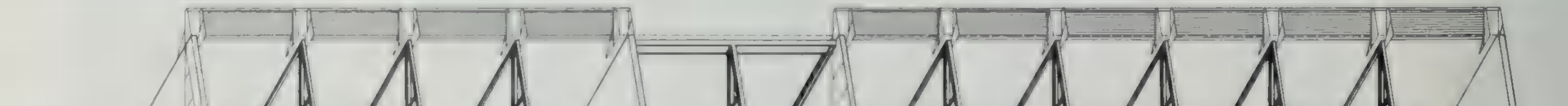
Making the most of a modest site, the Thornton Building presents a low profile to the street (top and section), then opens up to a larger statement with a grand portal (middle and bottom) that acts as an entry to the northern edge of the Stanford campus.

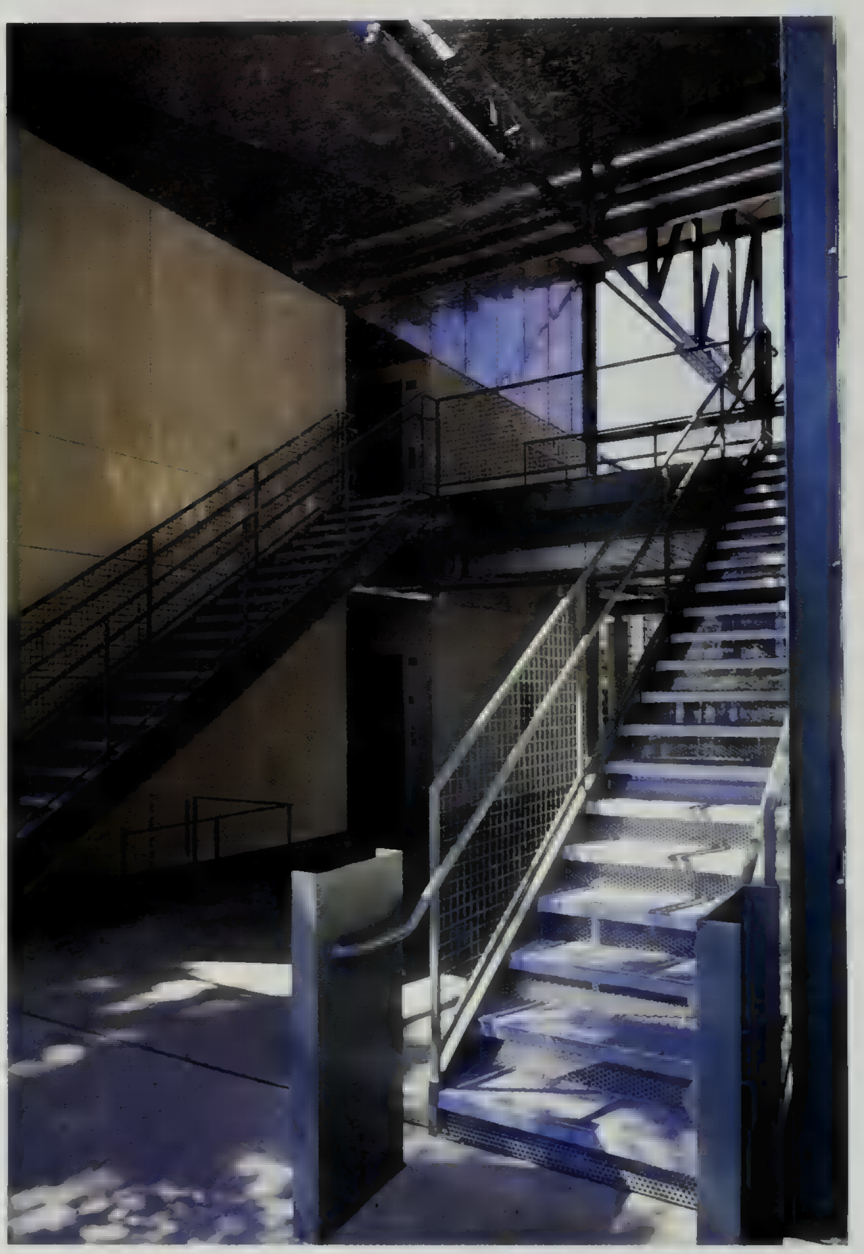


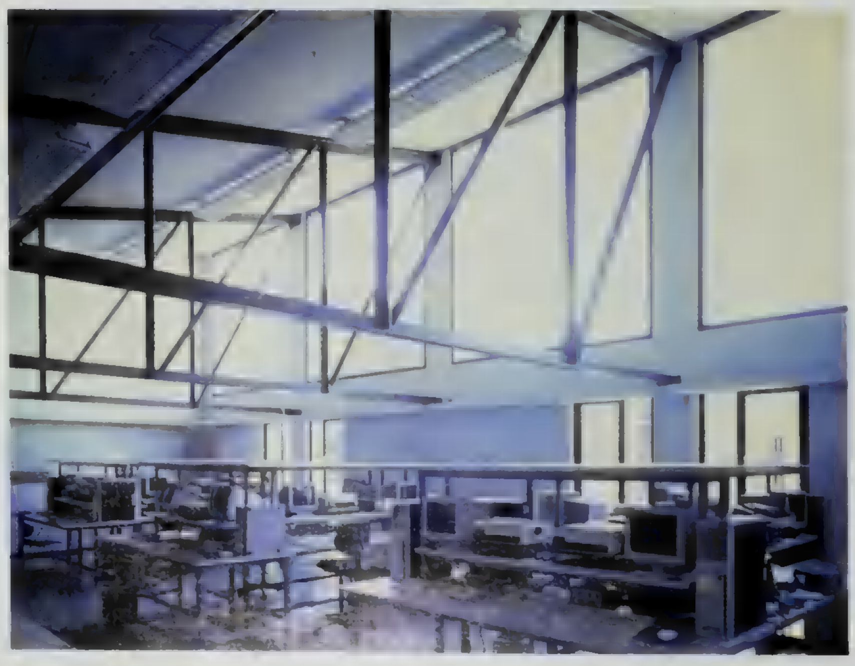
Though a red tile roof, mandated by the University, caps the composition, the visible portion of the Thornton Center is stucco and copper. The “piano nobile” o the studios uses copper to visually bridge the yellowish color of the stucco to the building’s gray-painted exposed steel framing. Steel-cased windows frame the structural grid, emphasizing the building’s rhythm. Although the building is a true shed-form, this is only apparent on the east and west facades—otherwise it appears to have an extremely strong orthogonal massing.

Up Close

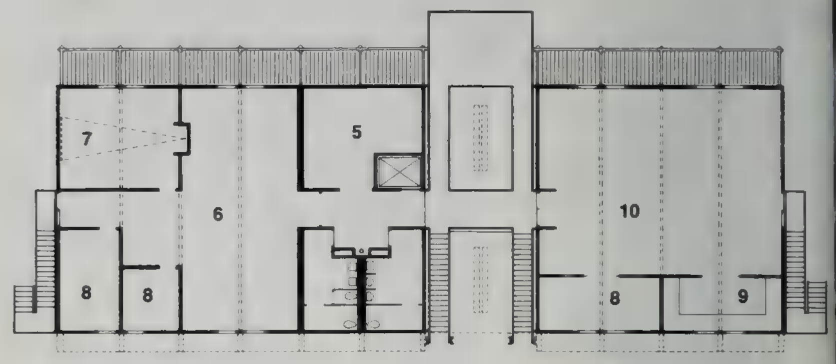
Structural definition. The Thornton Center is essentially a rectangular box whose interior spaces are defined by a row of steel trusses. The shape of these members creates a sloped roof that echoes the Stanford vocabulary, and is a form also typically used in industrial buildings to create daylight monitors. Here the second-floor classrooms are opened up to the north light. Lateral seismic bracing is provided at the slightly off-center center portal, in the form of a Pratt truss. The end facades are frank expressions of this structural and functional arrangement. The only additions involve the site. These include screen walls, the portico—whose poured-in-place columns echo the Terman Building—and the slightly whimsical extension of the stair landing into a “Pope’s balcony.”



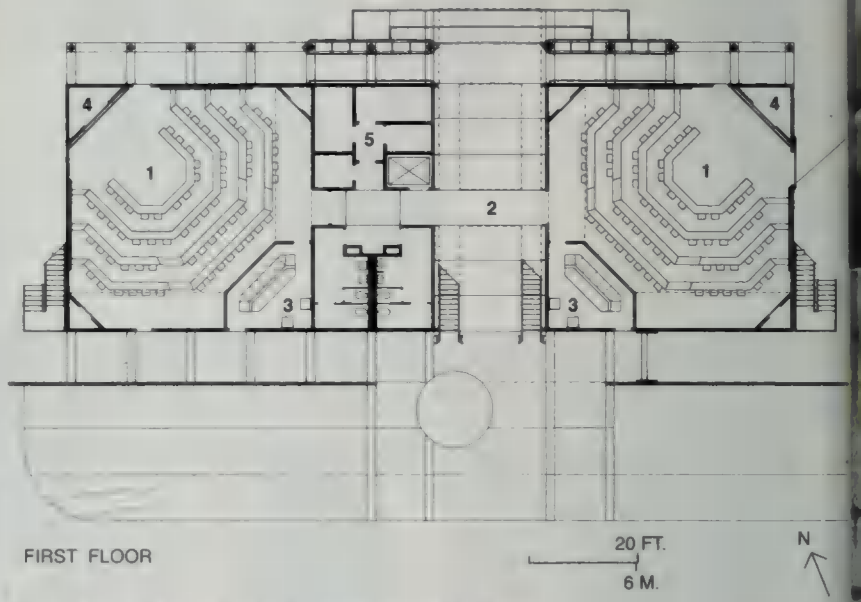




1. Classroom
2. Portal
3. A/V booth
4. Storage
5. Mechanical
6. Computer lab
7. Conference room
8. Office
9. Shop
10. Products lab



SECOND FLOOR



FIRST FLOOR

Two views of the building's roof structure (above left and opposite) are exposed in the portal between the west and east sides of the building. Octagonal classrooms (plan above) are isolated, while the light-filled studios above (below left) open up to the campus and skies. Leddy's updating of campus building traditions continues here through his use of cornices as computer-cable raceways. Partitions in the west classroom (not shown) are his only regret.

Credits
Charles B. Thornton Center for Engineering Management
Stanford University
Palo Alto, California
Architect: *Tanner Leddy Maytum Stacy Architects—William Leddy, Marsha Maytum, partners-in-charge*
Consultants: *Steven Tipping & Associates (structural); MCT Engineers (MEP); GL&A Engineers (civil); Peter Walker/William Johnson & Partners (landscape); Charles Salter & Associates (acoustical, A/V); Architectural Lighting Design (lighting)*
General Contractor: *N.L. Barnes Construction Company*

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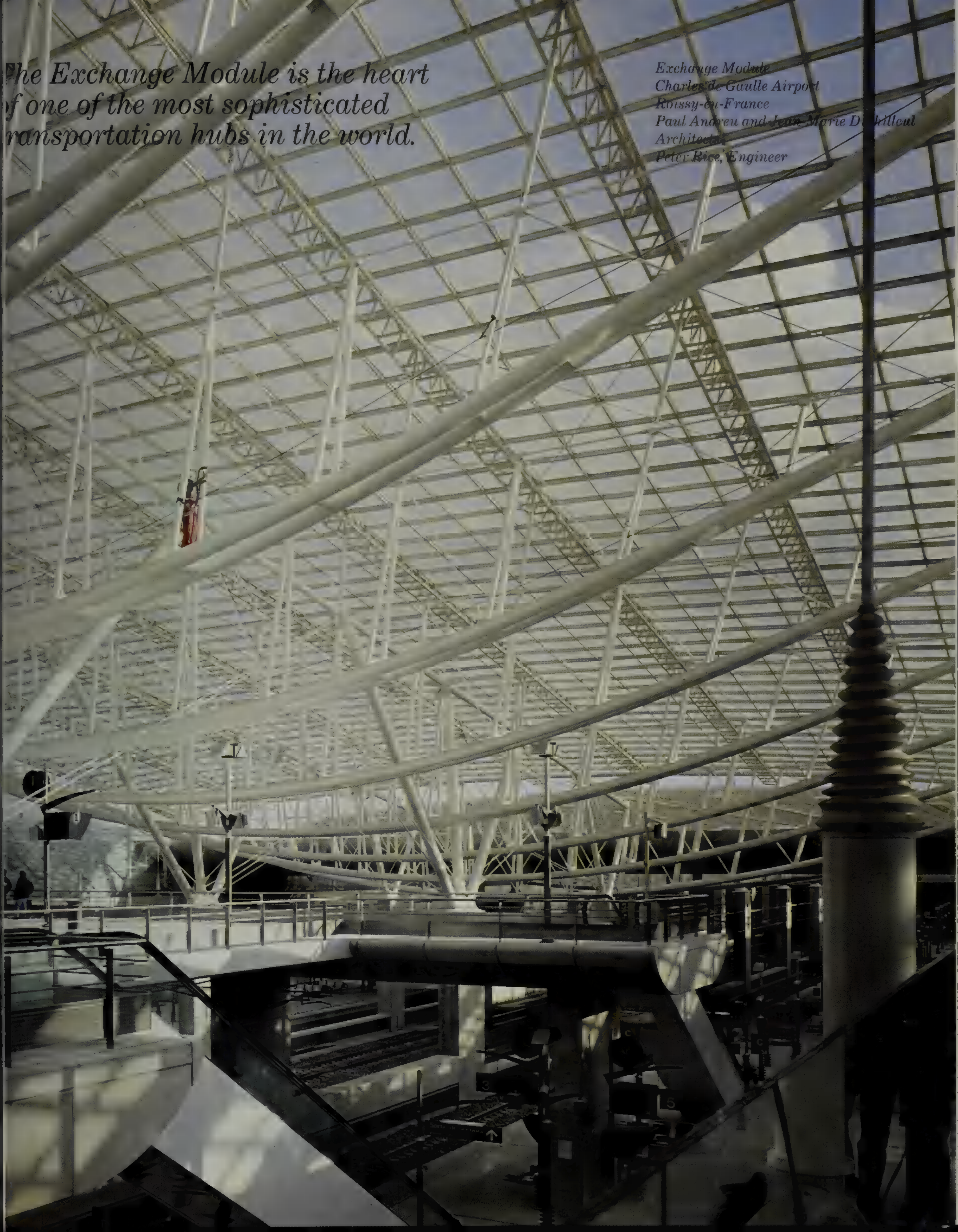


Exchange Module
Charles de Gaulle Airport
Roissy-en-France
Paul Andreu and Jean-Marie Duthilleul
Architects
Peter Rice, Engineer

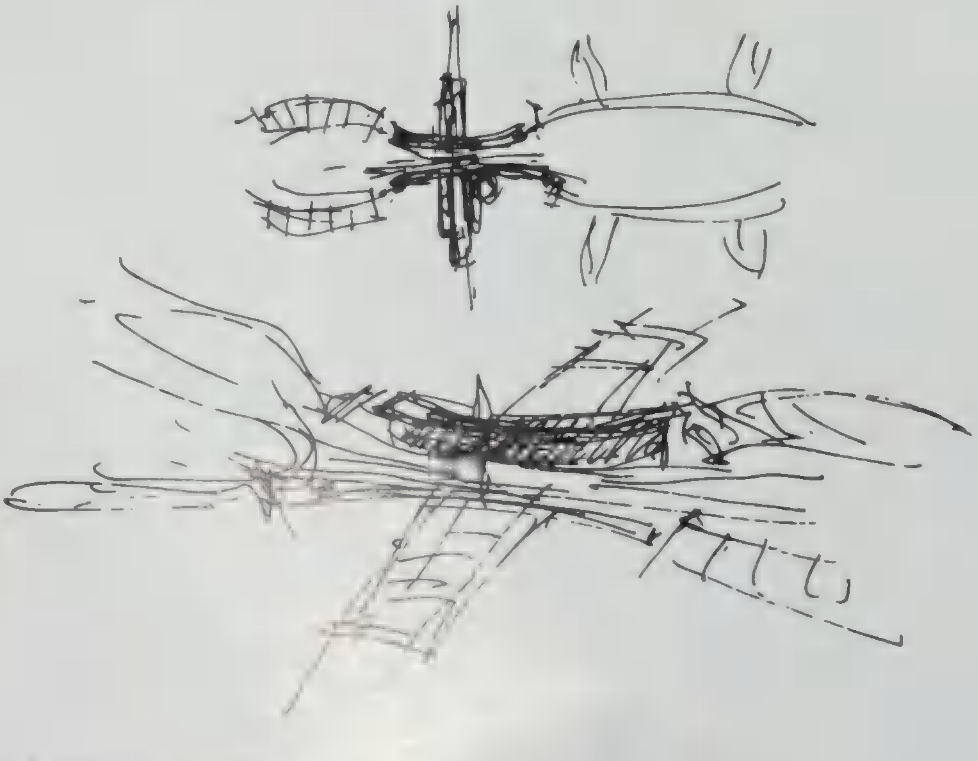
The intersection of a high-speed rail line, airport, and urban transit system occurs at the new Exchange Module at France's Charles de Gaulle Airport. Opened in 1994, the module serves the recently built perimeter TGV (*trains á grande vitesse*) line skirting eastern Paris. Built to circumvent lengthy connections from one inner-city station to another, the new line, and its airport link, renew Paris's competitive edge as an international transportation center.

The exchange module is really two projects in one—a train station, plus the multi-level pedestrianway—and is the latest but certainly not the last element in French architect Paul Andreu's collaboration with the Aéroports de Paris. Andreu has designed the entire Charles de Gaulle Airport, and his new project creates a point of relief in its masterplan. The module uses dramatic structural design to create unencumbered circulation and, although monumental, there is a quality of light and weightlessness about it that contrasts with the density of its concrete neighbors.

For this latest project, Andreu renewed his collaboration with the engineer Peter Rice (who died in 1992), and Rice's Paris office, RFR. Through shared discussions, Andreu and Rice conceived of a space that would stay away "from the simplistic idea," or as Andreu explains, "the tendency in modern architecture for a building to have just one unifying concept." Instead, the elliptical 260-room hotel extends the existing poured-concrete architectural language of Terminal 2—the transparency of the hotel's atrium becomes a skylight for the exchange terminal—and is an elegant counterpoint for the transparency of the train station. The linkage was simplified by the design of the air terminal itself. In plan, Terminal 2 resembles an elongated figure-eight. In choosing the narrow juncture between existing segments and the future loop of Terminal 3, Andreu underlaid the perpendicular axis of the 1,600-foot-long train station.

The winged glass roofs of the train platforms are, from every angle, the focus of the project. Andreu wanted the roof to appear to float, and he wanted users to be able to see out and be bathed in light. RFR developed a cantilevered tubular-support structure, which is quite dense. The visual complexity is diminished by the design of distinct, readable layers. "It was part of Rice's concept," explains RFR project director Hugh Dutton, "to establish a hierarchy, with each element

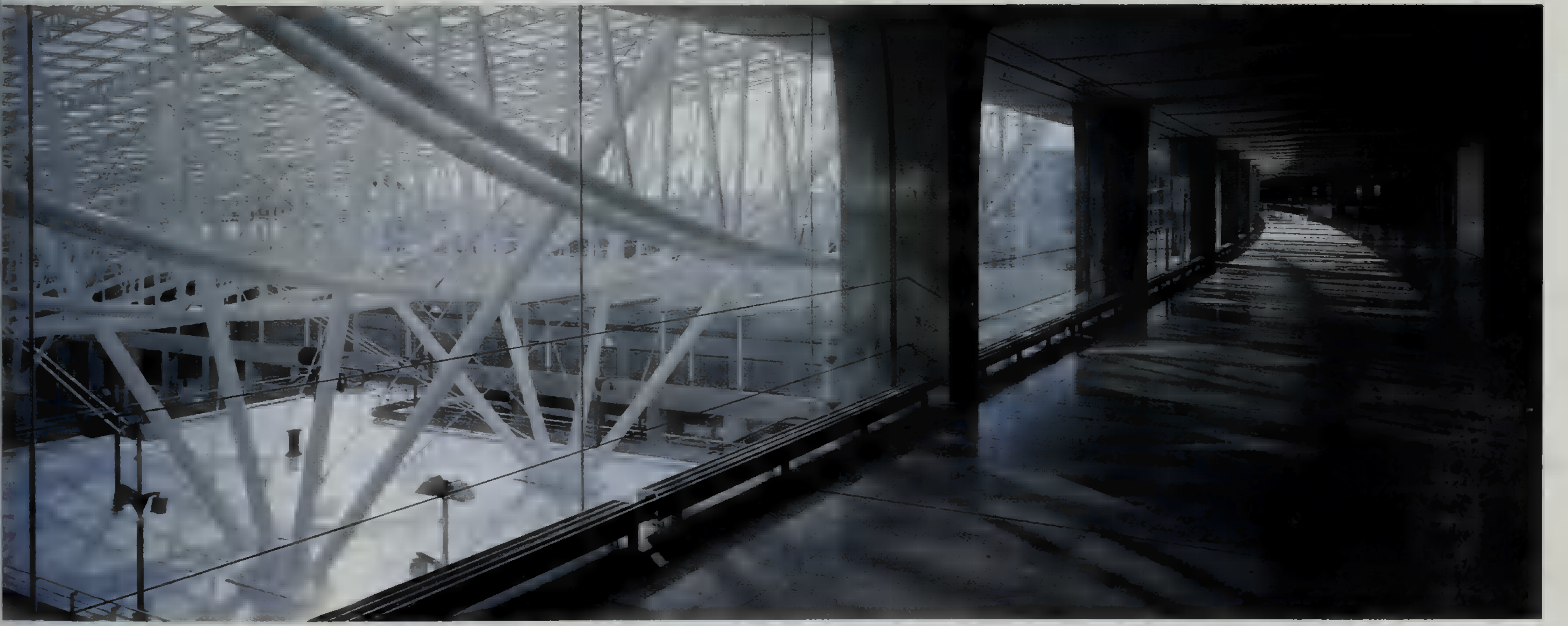
Continued on page 84



Up Close

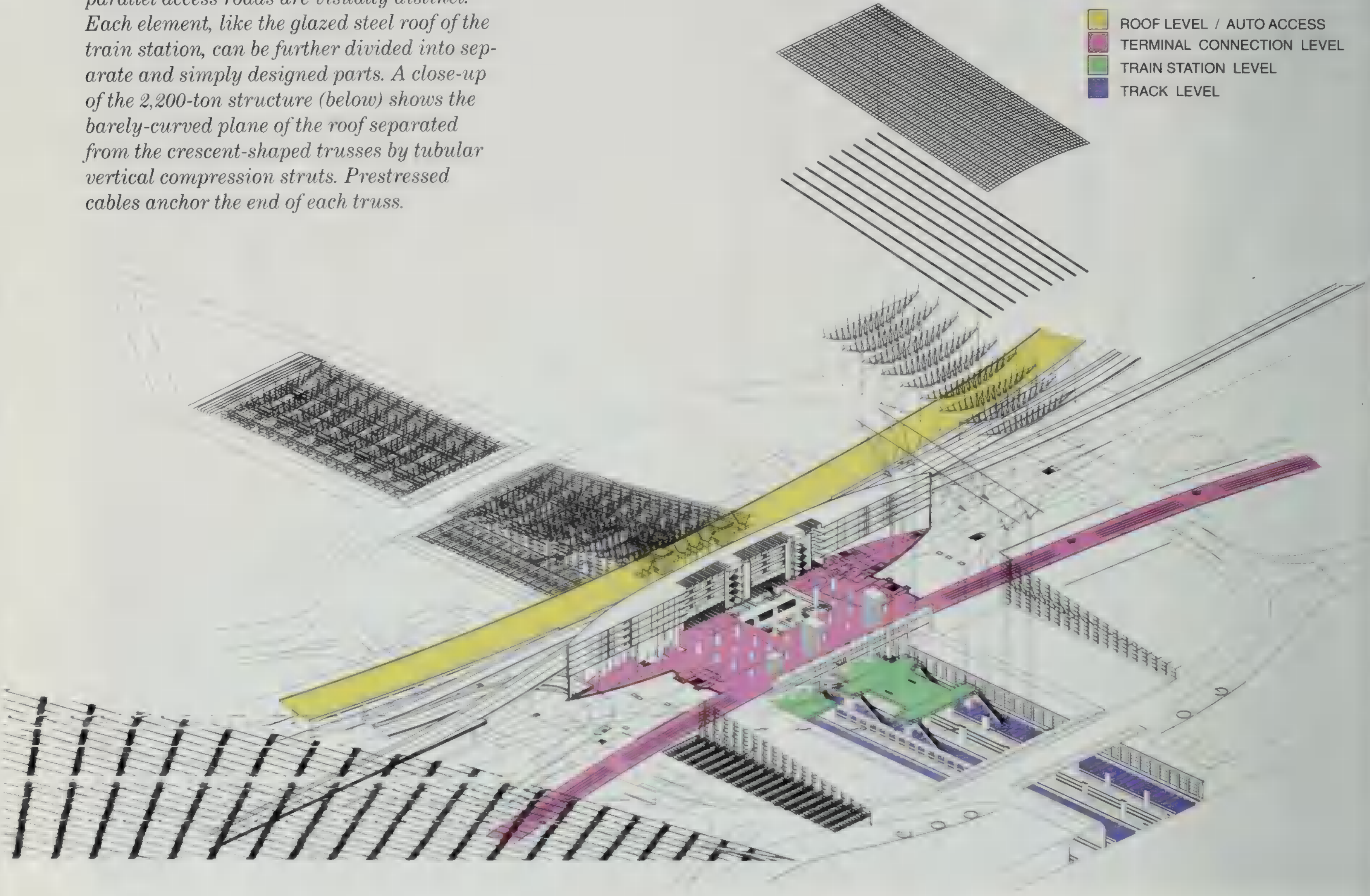
Andreu the master builder. For French architect Paul Andreu, the evolution of Charles de Gaulle airport has been a 30-year preoccupation. As a young engineering graduate still working on his architecture degree in the 1960s, Andreau took a job with the Aéroports de Paris (ADP) working on the masterplan of the new airport. By the time he was 29 and an architect, he was designing the airport's first terminal. It was a chance he got through luck, long hours and, he admits, by being a little competitive. The design, a segmented circle where passengers move through suspended transport tubes, became a symbol of late-Modern architecture. Coming from nowhere at a time when few French architects were interested in airport design, Andreu found himself in the spotlight, but also on the defensive: reviewers at the time were unsure whether this was architecture or engineering. Isolated by the debate, Andreau opted to stay on with ADP. Now that airport commissions are prized by the world's top architects, Andreu's positions with ADP is enviable. His career in transportation design has not only developed internationally, but with the completion of the Grande Arche at La Défense (after the death of Johann Otto van Spreckelsen), one of Paris's *grands projets*, and his museum in Osaka, Japan, Andreu is finding a new audience for his architecture.

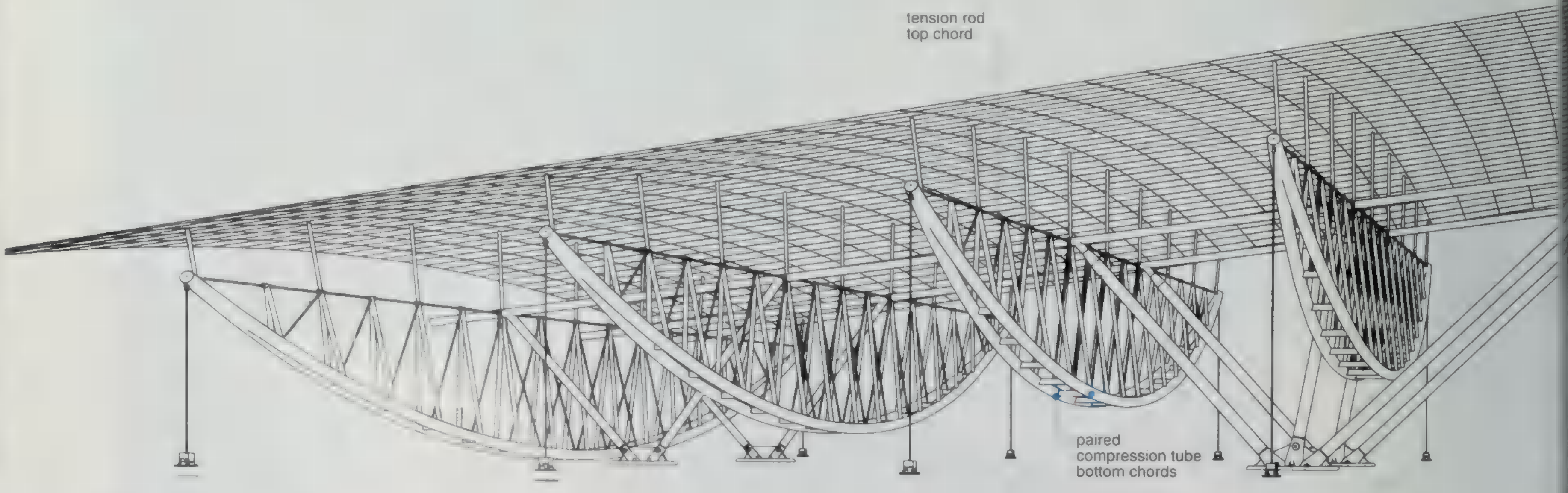
Paul Maurer photos except as noted



Circulation and structure

The complexity of the exchange terminal and train station was simplified by analyzing each piece separately. The linear train lines, the lobby of the hotel, the inter-terminal transport, the pedestrian concourses, and the parallel access roads are visually distinct. Each element, like the glazed steel roof of the train station, can be further divided into separate and simply designed parts. A close-up of the 2,200-ton structure (below) shows the barely-curved plane of the roof separated from the crescent-shaped trusses by tubular vertical compression struts. Prestressed cables anchor the end of each truss.



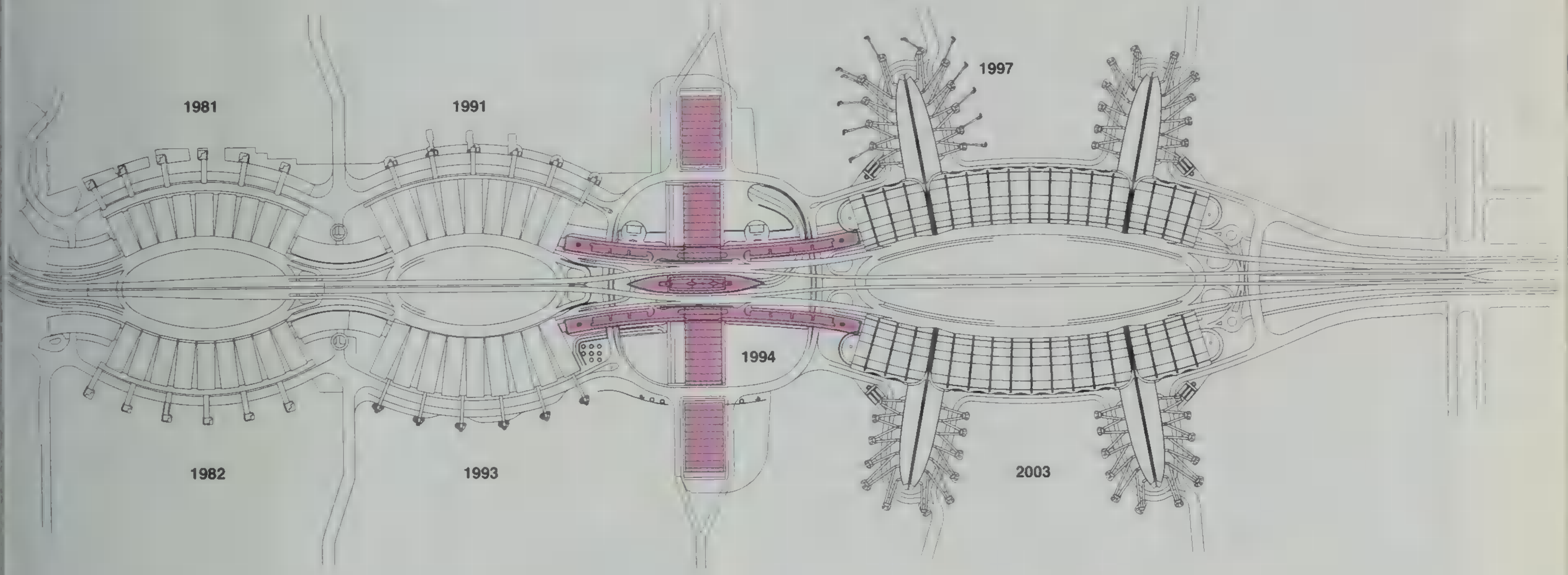


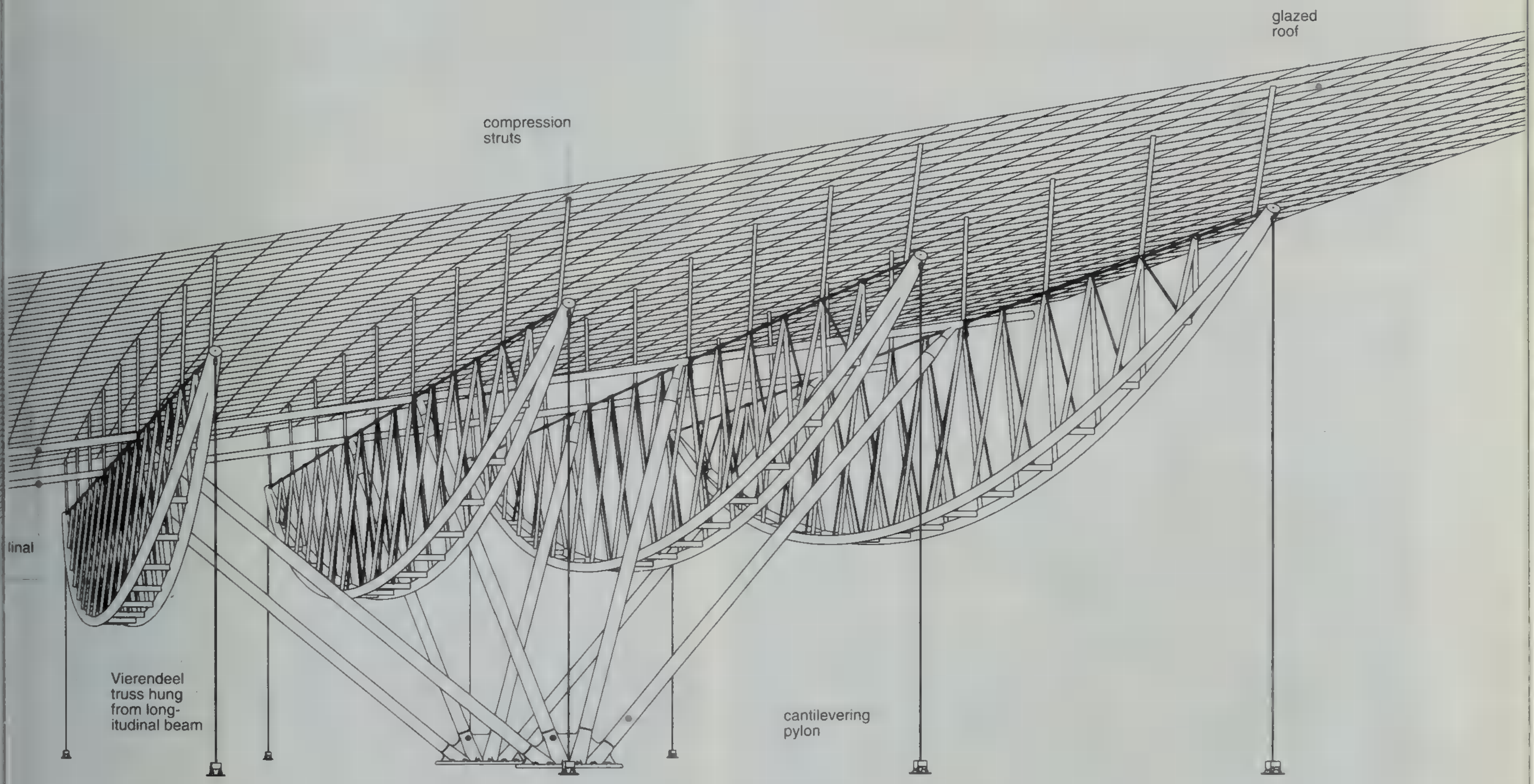
SECTION THROUGH ROOF

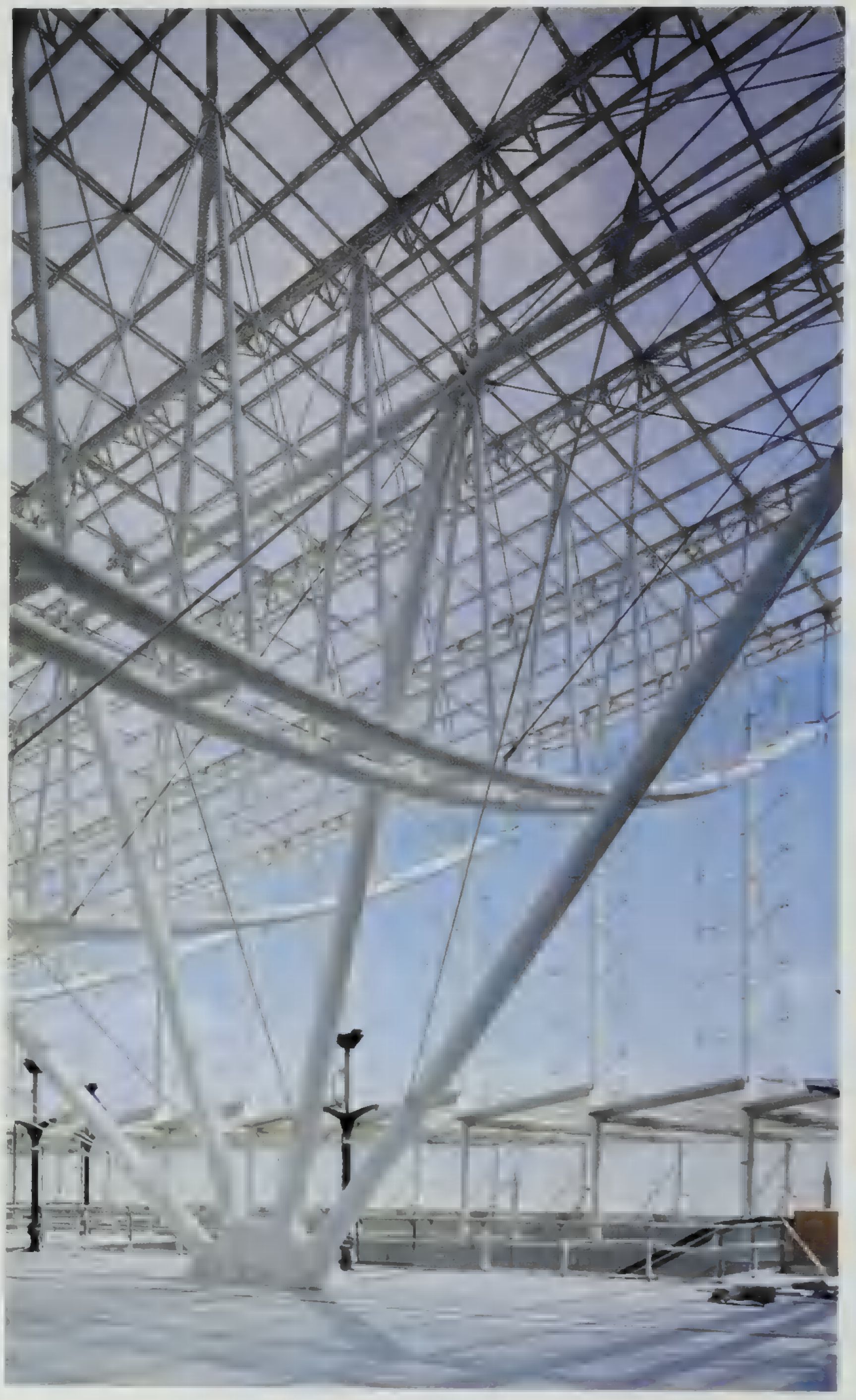
Additional stabilizing cables not shown

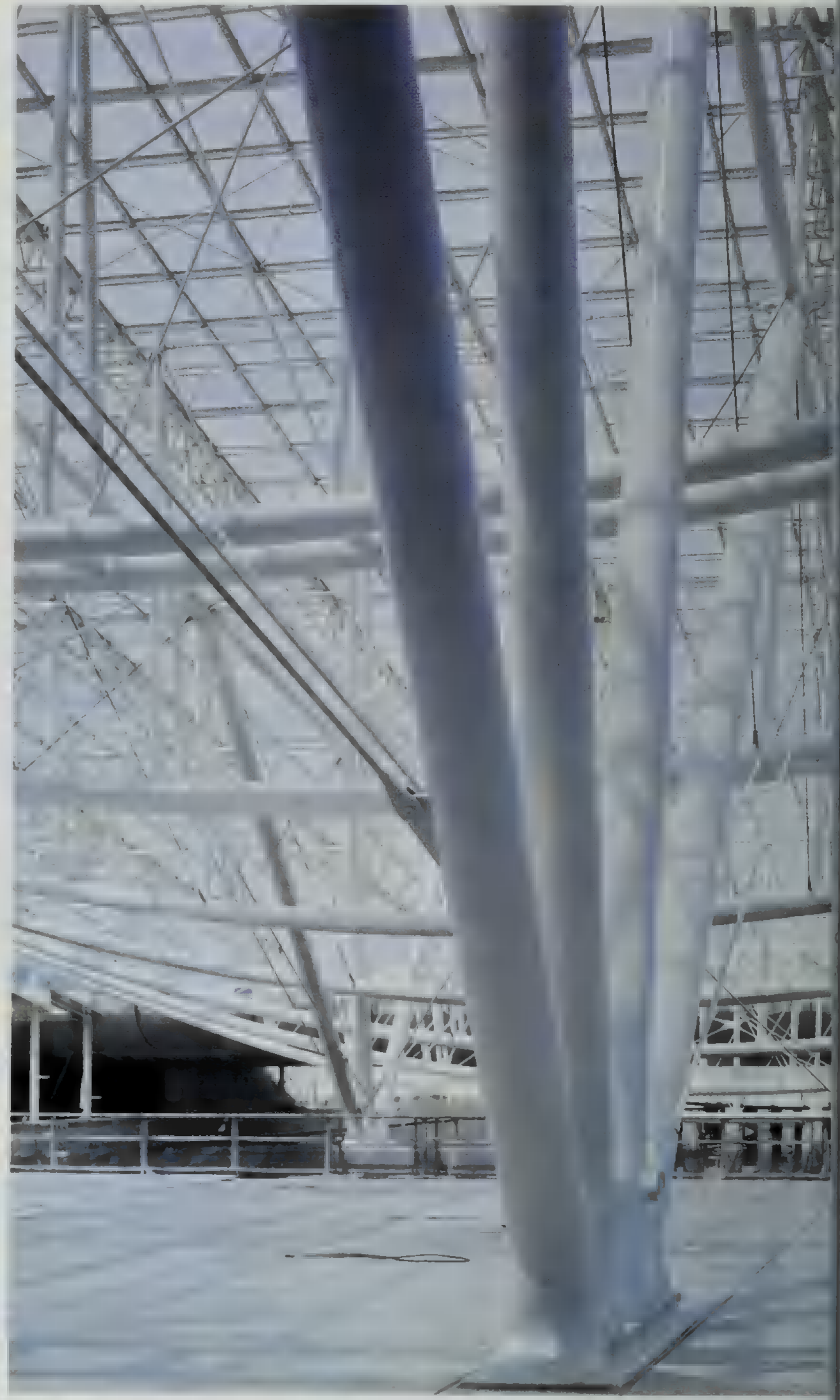
changing master plan

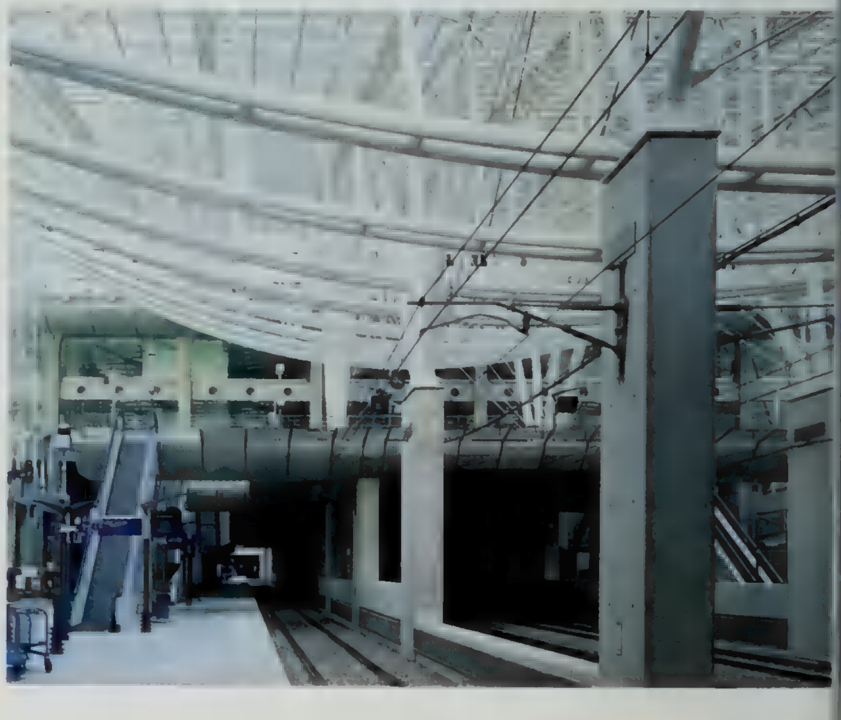
harged with the master planning of the ntire airport, as well as the architecture of s main buildings, Andreu was able to ntroduce an architecture for the train ation that counterpoints the existing parts f Terminal 2 and Terminal 3 (currently nder construction). The architecture of the rminals has evolved over time, changing om a one-story plan to a two-story plan for e latest terminal which will handle more traffic. In addition to the central passenger drop-off road, automated shuttle cars will take voyagers from the exchange terminal to the most distant Terminal 1.











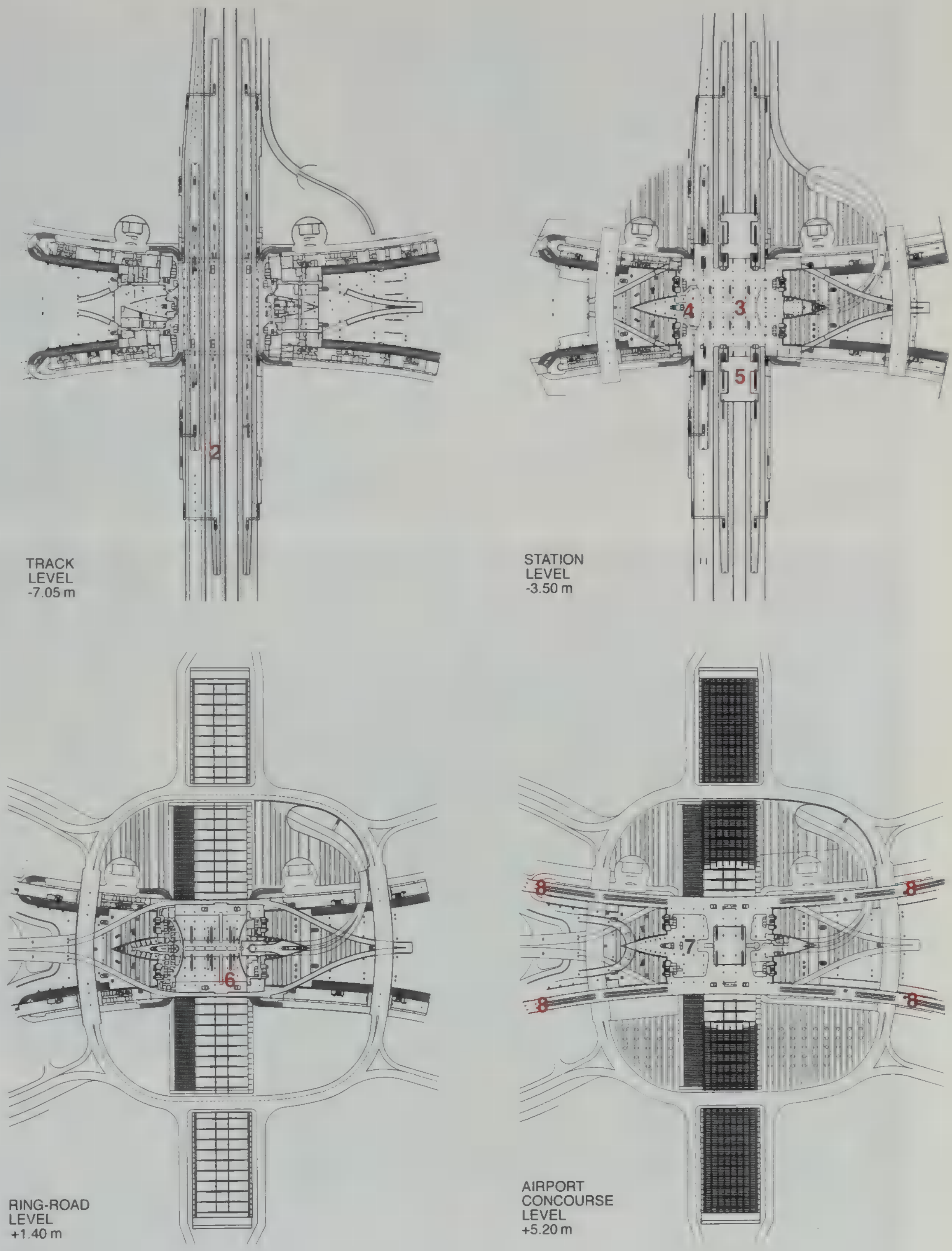
vo rows of spoke-like pylons
:pport the train-station roof
›p opposite), one on each side
' the crescent-shaped trusses so
at their identity is distinct.
ıch pylon base rests on a pin-
int covered by a steel casting
at allows movement while
ıaranteeing constant compres-
on.

y using fritted glass for the
›of, light is diffused, and the
nsation of looking into a dark
ructural underbelly is avoided.

ıe non-loadbearing walls, sep-
ırated from the roof by a
ur-foot air space (bottom left
›pposite), are transparent,
lowing a view of airplanes. The
cade system keeps the glass
ırface free from mullions by
ring drilled-through fittings on
ranch-like arms attached to
ertical masts.

lans show the intersection
etween the train lines and air
rminals, the genesis of the
xchange Module. Moving up
om the train platforms to the
e intermediate lobby, then up
level two, the traveler arrives
' the main waiting area, shops,
nd ticketing.

t the upper level, four moving
dewalks take passengers to the
djacent air terminals. Prow-
ıaped walls support the hotel
›cated above.



1. *TGV trains*
2. *Commuter-rail tracks*
3. *Rail concourse*
4. *Ticketing*
5. *Waiting*
6. *Transport to terminals*
7. *Hotel lobby*
8. *Concourse to terminals*

Continued from page 78

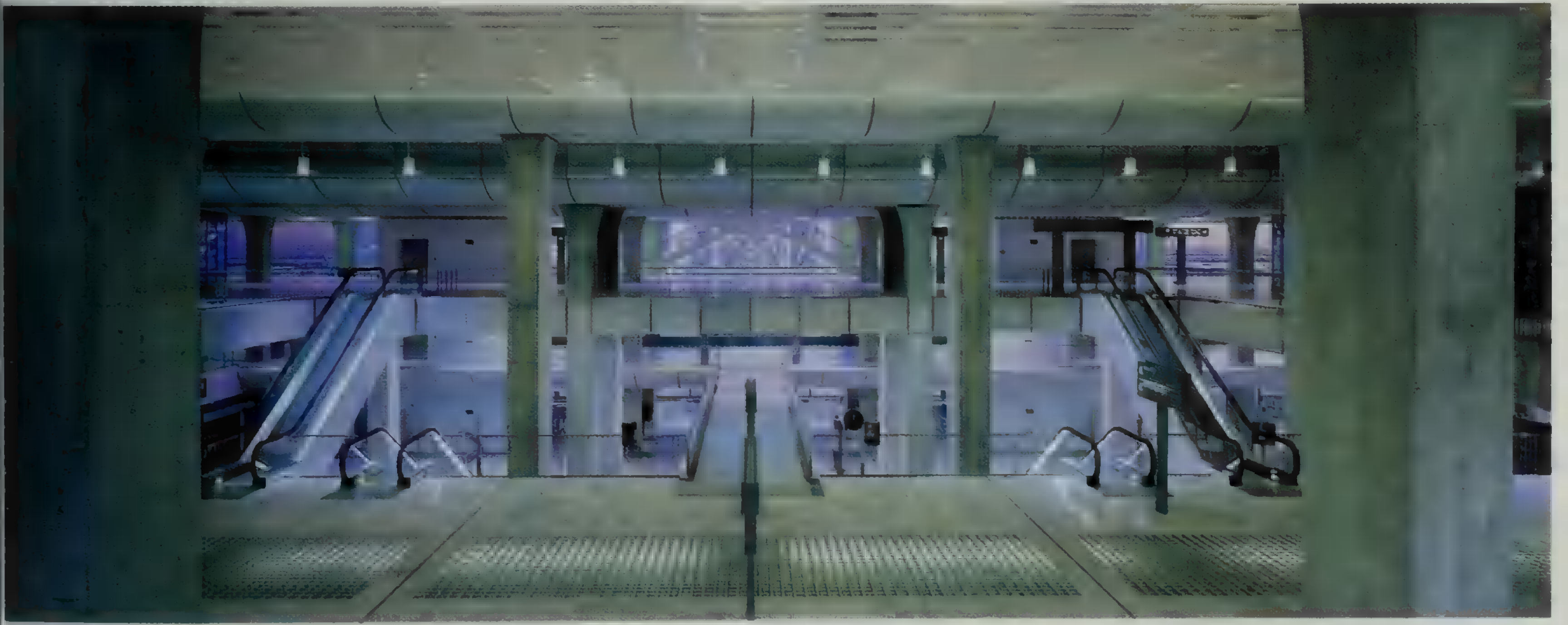
having its own identity." The sweep of the roof unifies the complex human movements within. Passengers transfer from commuter-rail lines to plane, plane to train, or even Terminal 2 to Terminal 3. Each transport system occupies its own level, and the openness of the scheme gives passengers a clear idea of where they are and where they need to go. Its architecture, punctuated by escalators, seating, and banks of monitors, is almost a blank slate. The eye is not drawn to the open interior space, but outward, either to the animated roof of the train station, or the airplanes on the tarmac. The fact that the glass train-station roofs slope up toward the hotel above allows a protected inside-outside view. Daylight enters from the north and south and, and at night, light levels are kept below the glare threshold so often exceeded in transportation centers.

The openness of the project helps alleviate stress by constantly reorienting passengers as they move through the Module. Andreu is against all that clutters transportation spaces: advertising, piped-in music; anything that can be referred to as animation. Fortunately, he has included a café and newspaper stand along with the train ticketing counter on Level 2, since the TGV passes infrequently. In terms of train traffic, the suburban train into Paris, whose four lines parallel the TGV, is more important. Still, Andreu has preserved a sense of calm that almost allows this 216,000-square-foot building to seem intimate. *Claire Downey*

© G. Halary this photo

Several modes of transport, ea with its own distinct path (bottom left), occupies their ow level without intersecting the others. Twin concrete overpass (above opposite) allow passeng drop-off at either side of the bo shaped hotel. Roads connect th air terminal and parking, whi within the exchange module (below opposite) travelers use escalators to descend to their trains.

Credits
Exchange Module
Charles de Gaulle Airport
Roissy-en-France
Owner: *Aéroports de Paris; SNCF*
Architect: *Paul Andreu; Jean-Marie Duthilleul*
Architecture and Constructio Management: *Dimitri Georgandélis, project manager; Michel Vermeulen, deputy project manager; Anne Brison, architect (Aéroports de Paris); Daniel Claris, project manage Joël Nissou, Sylvie Guillaume, Jean-Louis Salama, architects Jacques Courvoisier, project manager (SNCF)*
Engineers: *RFR—Peter Rice, partner-in-charge; Hugh Dutto architect, project manager; Claire Mazelet, Henry Bardsle Kate Purver, Guy Deshayes, engineers; Alexander Autin, David Holford, architects*



Making Affordable Projects Work

By H. Jane Lehman

Money matters, it goes without saying. But the notable lack of it within the affordable housing realm drives nearly every step of the design process. For architects working on affordable housing projects, the challenge, in a nutshell, is: How do you create tight but livable spaces for little money on problem-laden sites for diverse groups of residents? The answer: Carefully, sensitively, and with respect for the particular needs of the people who will be living there.

The faithfulness of the architectural profession to these principles falls to either extreme, says Bill Witte, a partner with The Related Companies of California, an Irvine-based development company that specializes in low-income housing. Much of the public housing built in America during the post-war era failed to provide safe, attractive, or appropriately scaled places to live. While design was hardly the only cause of these problems, the architects involved in these projects and the profession as a whole earned a reputation for being removed from the concerns of the people they were designing for.

Today, more architects recognize the need to listen to clients and end users. "Cost-efficiency is very important, particularly when there are limits on rent," says Witte in explaining a key issue for the organizations that build affordable housing. "But so is sensitivity to the needs of the people who will live there," he adds. "Do architects get it? Some do, some don't."

Tax-credit tangle

Clients ready to start affordable projects often fight long and hard for funds with which to proceed. Some patch together state and local funds, but most rely on the federal low-income housing tax credit. With the demise of the federally funded low-income housing production programs some 15 years ago, tax-credit financing (begun in 1986) is about the only thing that has sustained this market. The National Association of Home Builders estimates that in recent years the credit has enabled the annual construction of 30,000 to 80,000 new low-income rental units and the rehabilitation of about 60,000 existing affordable apartments (graph below shows new construction using the credit).

H. Jane Lehman is a Washington, D.C.-based journalist who specializes in covering real-estate and housing issues.

The federal low-income housing tax credit has played an important role in financing affordable housing over the last decade (chart right). Its fate is now being debated in Congress

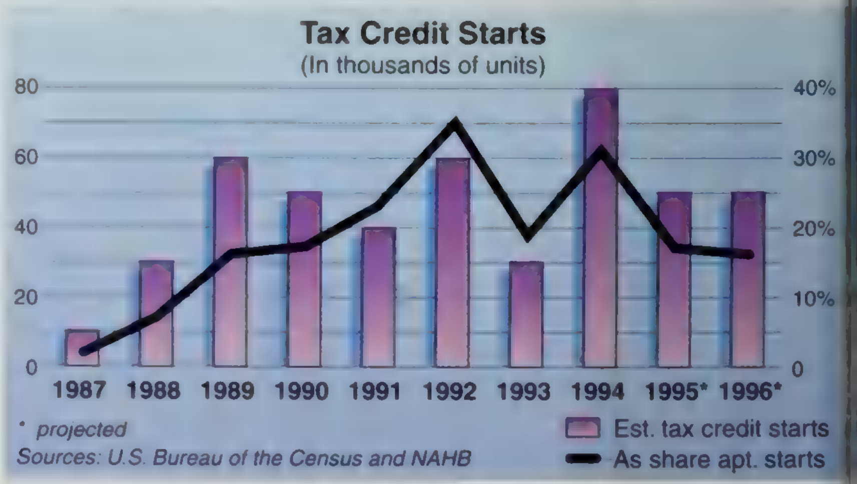
The program works this way: Each state, based on a per capita formula, gets a piece of an approximately $2.2-billion annual pie. Apartment developers submit proposals, including pre-schematics and site pro-formas, in an effort to win a credit allocation from a stat housing finance agency. Apartment rents must be affordable to households earning no more than 60 percent of the area's median income. In this case, affordable means a family spends no more than a third o its household budget to cover the rent. In the Los Angeles area, that translates to around $6,000 to $9,000 a year for shelter, reports Witte whose company has 10 tax-credit projects underway in California.

Developers who succeed in procuring credits from the state then sell them, often in conjunction with a syndicator, to investors who pay a lump sum for the credits. The credits are used by investors for dollar for-dollar write-offs against tax liabilities. With the investors' cash as an equity stake, developers do not need to borrow as much money to finance the projects, thereby lowering the rents they need to charge.

Credits' fate is in doubt—again

Although the system is working well, there is a fly in the ointment. The program's permanent status is in doubt—again. Two years ago, Congress—then controlled by the Democrats—voted to end the uncertainty associated with year-by-year renewal of the credit by embedding it permanently in the tax code. This fall, the Republican-led Congress agreed to revoke the tax credit's permanent status as of December 31, 1997. If that happens, the program's supporters say, the tax credit will not fare well at a time when federal spending is shrinking. "Sunsetting the tax credit is tantamount to killing it," states John McEvoy, executive director of the National Council of State Housing Agencies. The program's best hope is a Presidential veto with instructions to Congress to return with a new budget reconciliation bill that, among other things, preserves the credit's permanent status, explains Andre Shashaty, the publisher of a San Francisco-based magazine devoted to affordable housing finance. That, he says, would insulate it from the knock-down, drag-out federal budget fights expected in the coming years.

In terms of design, taking a one-size-fits-all approach to affordable housing is destined to fail, given the diversity of the intended occupants. Residents may be single mothers, two parents with lots of kids



* projected
Sources: U.S. Bureau of the Census and NAHB

'ax credits, planning ingenuity, and ensitivity to the needs of residents can create ttractive places for low-income people.

er-generational households, senior citizens, the disabled, or new migrants. This may mean including in the program special support atures, such as open space, playgrounds, athletic fields, child-care erations, job-training facilities, stores, or social-services offices. Or may mean recognizing that the needs of any one group may be reign to the architect's own experience, says Michael Pyatok, head Oakland-based Pyatok Associates, which designs about 400 units of v-income housing a year on the West Coast.

volving users in the design process

Vith over 20 applicants for every affordable apartment, architects n design just about anything and because the rent is cheap and the ilding is new, it will be rented," states Pyatok. "Consequently, chitects have felt free to design for their peers and their ideology, t invariably we have torn those things down." Pyatok addresses the oblem by including in the design process the neighborhood from nich the tenants are likely to come. Recently, the architects met ery two weeks with community members living near the site prosed for a project in San Jose. At the sessions, five groups of 10 atinos worked with modeling kits to explore apartment and site posbilities. After showing seven historical design directions, as well as eir contemporary interpretations, Pyatok was surprised when all of e groups, working independently, not only settled on the same cate-ry but picked the same two images out of the four offered. The nner? "They loved the vibrancy of the Crafts style."

different tack was taken by Solomon Architecture & Urban Design shaping the Vest Pocket Community in Fairfax, California, a oject with 19 units of rental housing shared by roommates and signed to look like single-family houses. The non-profit developer, novative Housing of San Rafael, matches up roommates, deliber-ely bringing together the disabled, seniors, and single mothers. sides the usual challenges of affordable housing design, privacy is an especially important issue here because non-related people uld be living together, says architect Daniel Solomon.

/ definition, low-income housing is smaller and denser than market-te developments. The trick is to accomplish the economic trade-offs nile avoiding the "danger of making these places unworkable," plains Avi Friedman, director of the Affordable Housing Program at the school of architecture at McGill University in Montreal. The program doesn't just examine issues of affordable housing, it actually develops new prototypes as well. The 14-foot-wide and 36-foot-deep GrowHomes it pioneered cost $60,000.

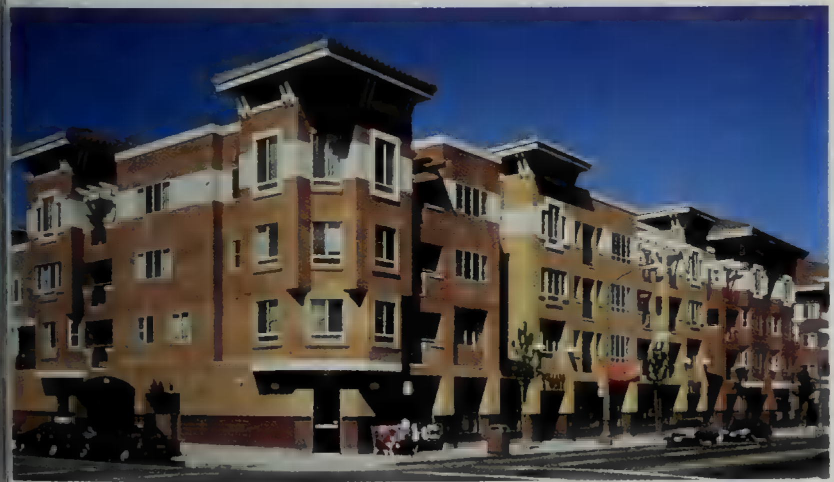
Part of the secret to designing affordable housing is creating efficient floor plans. "I have just gotten good at putting units together so there is no wasted space," says Solomon. Other critical ingredients are good access to daylight and views, says Joan Goody of Goody Clancy & Associates in Boston, a 50-person firm that has designed such award-winning housing projects as the 1988 Tent City and Langham Court [RECORD, July 1992, pages 92-97]. Goody is adept at carving four bedrooms out of the same space devoted to two in market-rate projects.

Nonetheless, architects should no more skimp on design details of housing for poor people than they should when designing for more affluent people. "Affordable housing does not cost any less to build," asserts Goody, "and it is a myth to think that it can." Many of Goody's projects, including Langham Court, mix low-, moderate-, and upper-income residents together without making quality distinctions among the units. "It is not normal for people to live segregated by income." A well-built project that fits into its surrounding neighborhood can help counter the knee-jerk response by many groups to resist the placement of affordable housing in their communities. Such a project "becomes a billboard for the next project you may want to do," says Pyatok. "It dispels doubts that other communities might have."

Responding to site and context

Low-income housing suffers from a poor reputation generally, driven largely by deeply flawed site designs from the past, which set the stage for crime and vandalism, says Solomon. The wholesale leveling of existing neighborhoods in the 1950s and 1960s in the name of urban renewal "destroyed the town fabric and stigmatized the poor," says Solomon.

Lost in the razing, explains Pyatok, was the old urban morphology of the American town that included rowhouses with front porches and backyards, the celebration of corner homes, the street grid, residential alleys, courtyards, and storefronts. Bringing that all back, he says, will let "people get to know each other again." ■



Michael Pyatok

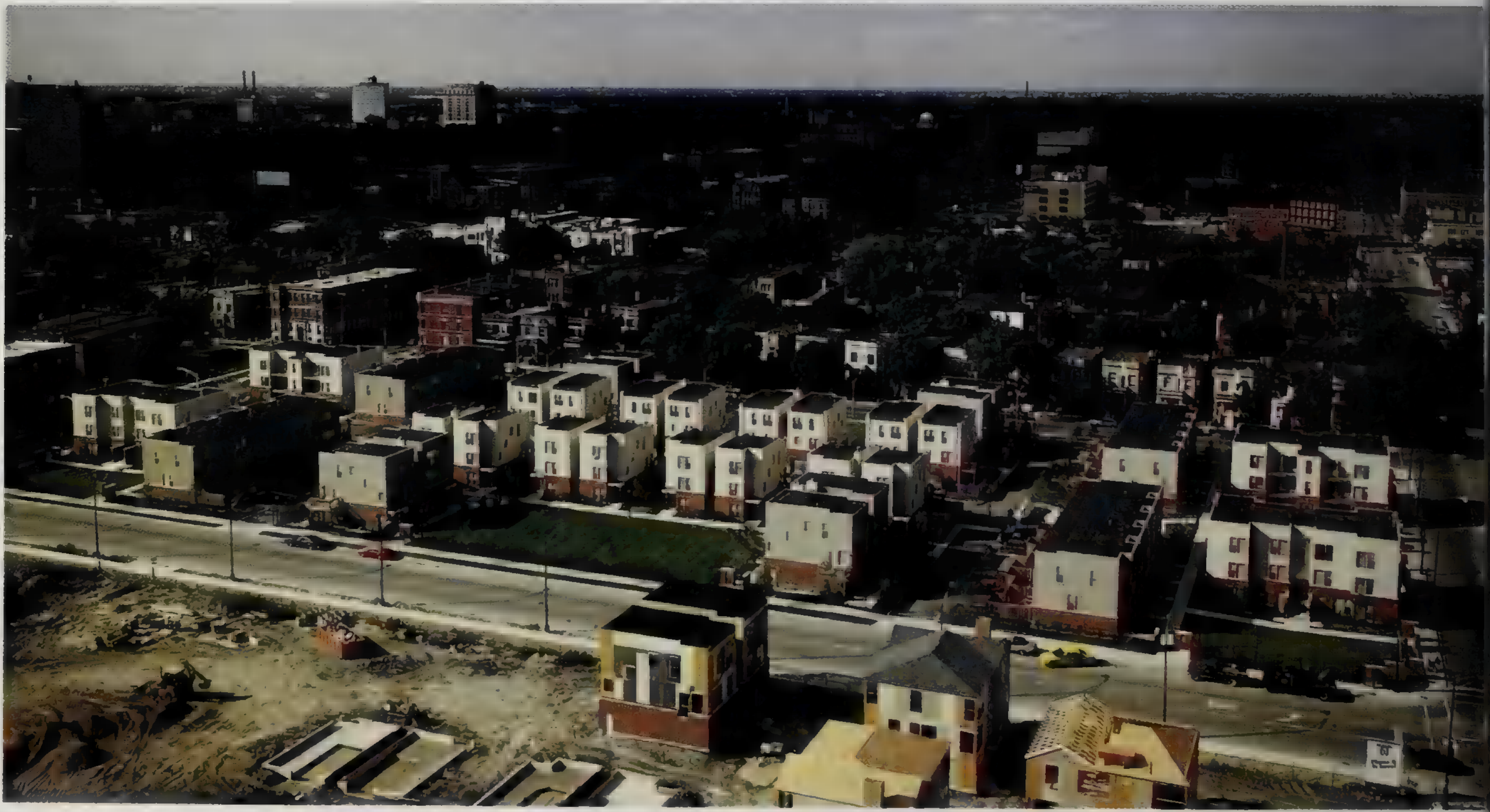
Hismen Hin-Nu (left) is a 92-unit, multi-ethnic project in San Francisco designed by Pyatok Associates and The Ratcliff Architects with townhouses and flats above shops.

Homan Square

Chicago
Nagle Hartray Danker Kagan McKay Architects/Planners

Located on the former site of Sears Roebuck & Co.'s world headquarters in west Chicago, Homan Square is an ambitious development that aims to revive a decaying neighborhood. Until the early 1970s when Sears moved to its world's-tallest tower in downtown Chicago, the 55-acre site was the heart of its global operations and included a 4-million-sq-ft warehouse, office buildings, and giant parking lots.

Sears' move downtown, combined with racial unrest in 196 triggered a downward spiral of decay and disinvestment that l the North Lawndale area an urban basket case. Now Homa Square is reversing that trend, bringing new subsidized and market-rate housing, and some commercial development, back to the neighborhood. A joint-venture of Sears and The Shaw Company, a respected local



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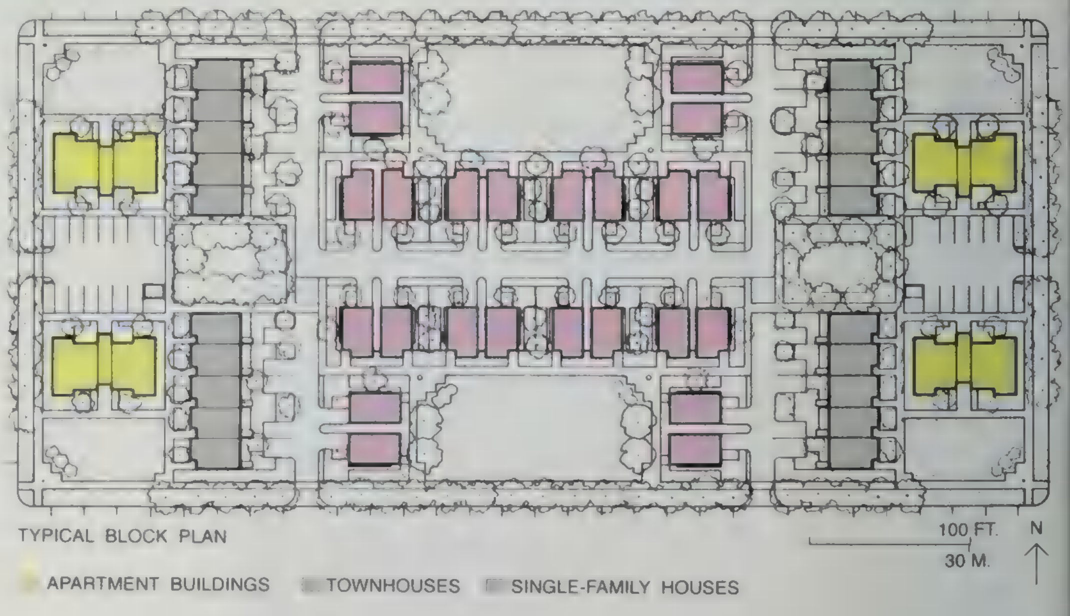
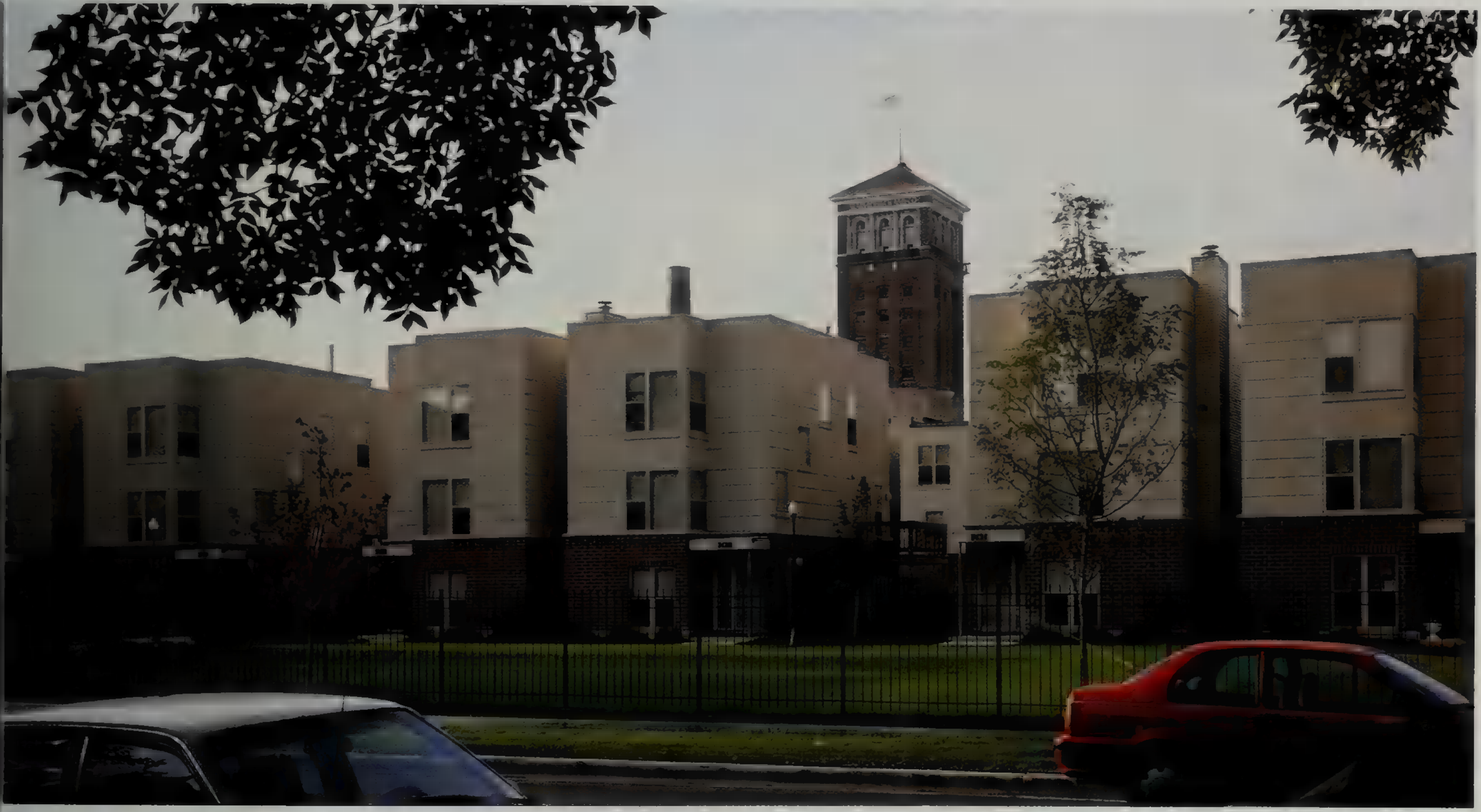
The first phase of Homan Square was completed last year and includes a complete block of 24 single-family homes, 20 townhouses, and 24 apartments in four buildings (above and site plan right). Single-family houses (opposite top and bottom left) were originally planned as duplexes, but were separated when focus groups expressed the desire for detached units. A 1905 brick tower from the original Sears complex is now a Homan landmark and may become a community center (opposite top). The design of the townhouses emphasizes simple open spaces such as the living/dining room (opposite bottom right).

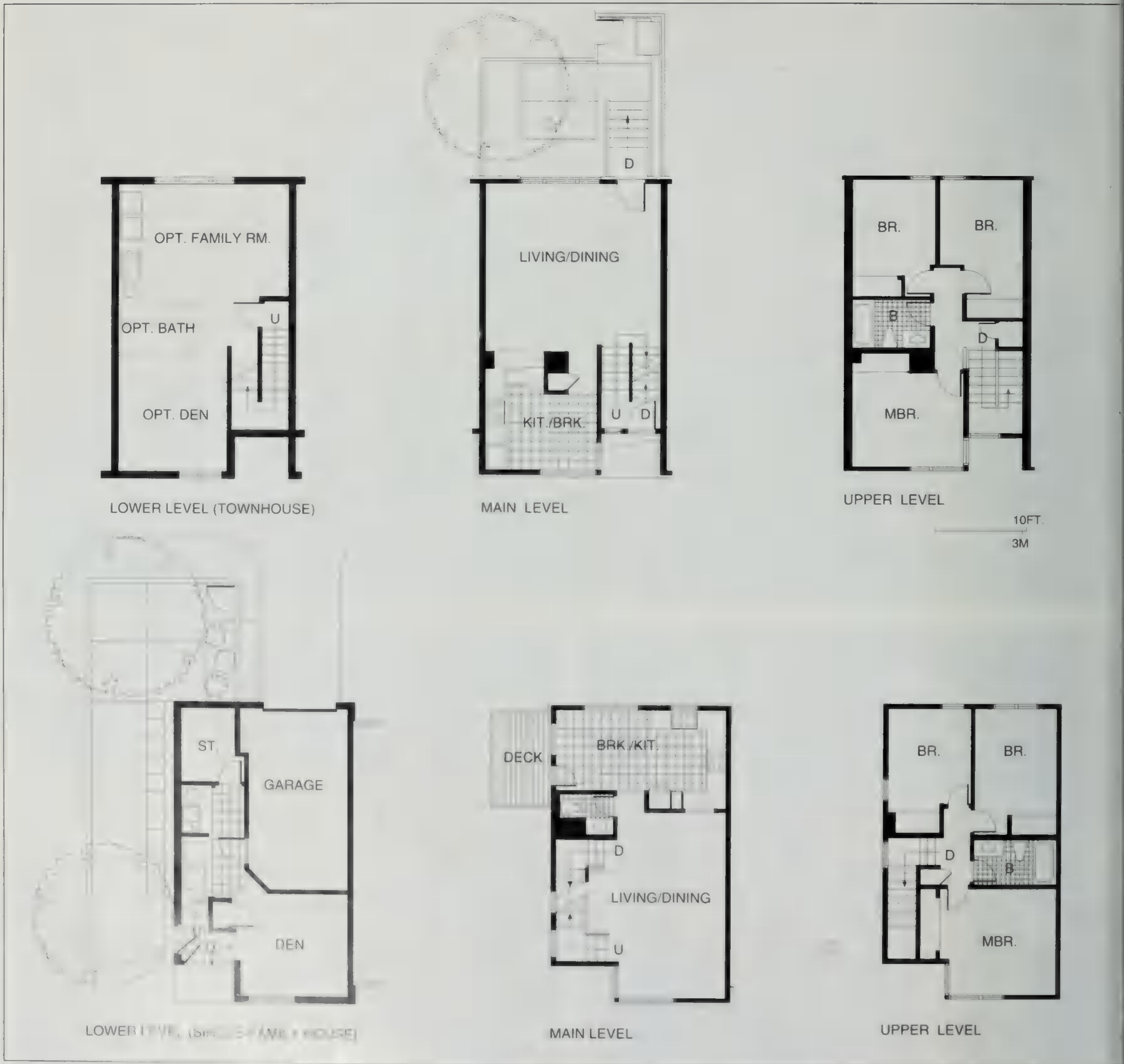


veloper, Homan Square will
ntually encompass 600 new
ts of rental and for-sale
ising, as well as the redevelop-
nt of existing office space for
vate businesses and the possi-
conversion of a 1905 brick
ver into a community center.
anks to Sears' donation of the
d and its $13,000 subsidy for
h for-sale unit in the first two
ases, the project is providing
ising for low-income families.

Additional subsidies of $20,000 per unit from the city's New Homes for Chicago program and housing tax credits are keeping most of the units here within the reach of families earning less than 80 percent of the local median income. As masterplanned by Nagle Hartray Danker Kagan McKay Architect/Planners, Homan Square is a series of mixed-income blocks that fit into the city's existing street grid while varying enough from the usual formula to establish its own identity. "The idea was to develop a site plan that would work with the scale of the existing neighborhood, while creating defensible open spaces in each block," says partner-in-charge Dirk Danker. Instead of lining up all the housing along the street, as is typical in Chicago, the architects carved out small green spaces at the four corners and two larger open spaces in the middle of each block. To make sure these open spaces are safe places for residents, the masterplan organizes housing units so they face the outdoor spaces. By lining the open areas with front doors, the plan makes sure the residents take possession of the communal spaces. Although most homes are serviced from the back by alleys, the amount of space devoted to

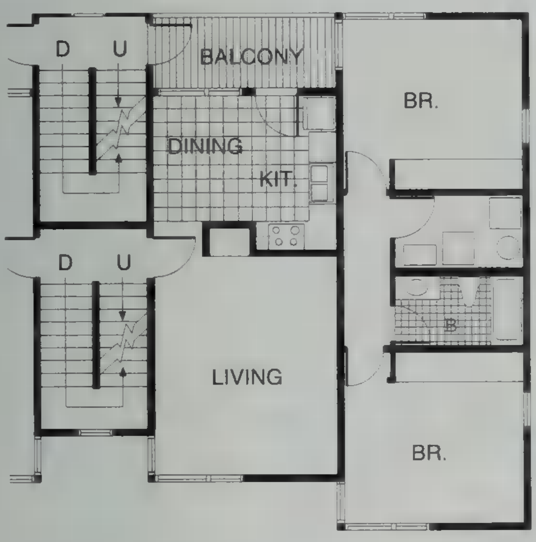


these internal roads is kept to a minimum and backyards are fenced off so that each family controls this space. Homan Square includes three types of housing—detached single-family homes, townhouses, and apartments—and each block includes all three. By integrating all three in each block, the developers made sure there would be a mix of income groups and family types in each phase of the project. "We wanted to mix it up as much as possible," says Danker. Three-story apartment buildings with six units each anchor the four corners of the block, while 24 single-family homes wrap around the two lawns in the middle of the block. In between are four rows of townhouses, five units to a row. The result is 68 units to the block. The three-bedroom single-family houses range in size from 1,590 to 1,670 square feet and in price from $92,000 to $97,000. In the project's first phase (one block), which was completed and fully occupied in the second half of 1995, rents ranged from $385 a month for 850-sq-ft apartments to $490 for 1,160-sq-ft townhouses. Some of the units have half-sunken basements and all are simple wood-frame structures with wood trusses and clad with brick at the base and stucco and EIFS above. By using masonry only at the base, stacking plumbing, and using efficient floor plan that almost eliminate corridors, the architects were able to keep construction costs down to about $70 a square foot. Corner windows and open living spaces make these units feel larger than they are. A second block is under construction and will be ready this spring. Phase 2 is already sold out. A third phase with 16

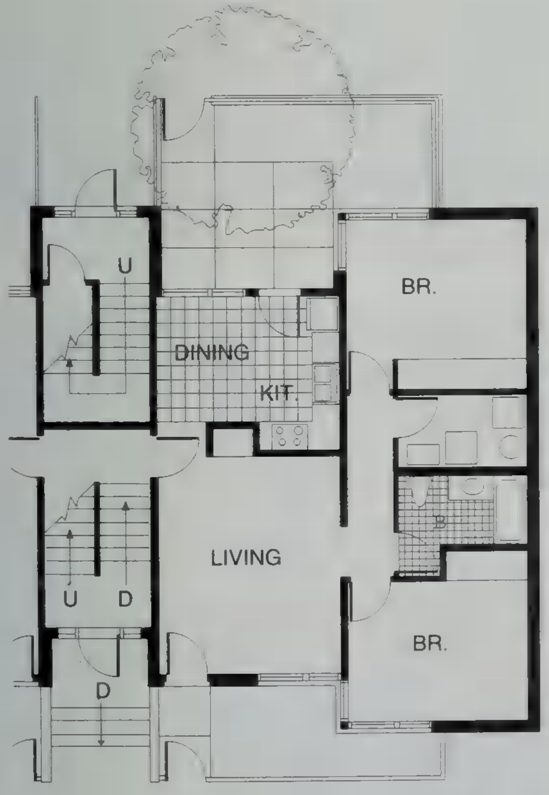


arket-rate homes is being signed by Schroeder Murchie aya Associates. "Our hope is to tablish a neighborhood that's od, a place where people want live," says design principal mes Nagle. The plan seems to working. In fact, the project is couraging residents of adjant blocks to upgrade their mes. *Clifford A. Pearson*

Credits
Homan Square
Chicago
Owner: *The Shaw Company*
Architect: *Nagle Hartray Danker Kagan McKay Architects/Planners—James L. Nagle, design principal; Dirk W. Danker, partner-in-charge; Robert J. Neylan, project manager*
Engineers: *Beer, Gorski, Graff (structural); Bollinger Lach & Associates (civil); Creative Systems (mechanical)*
Landscape Architect: *Lannert Group*
General Contractor: *Shaw Homes—Frank Martin, president*



SECOND AND THIRD FLOOR



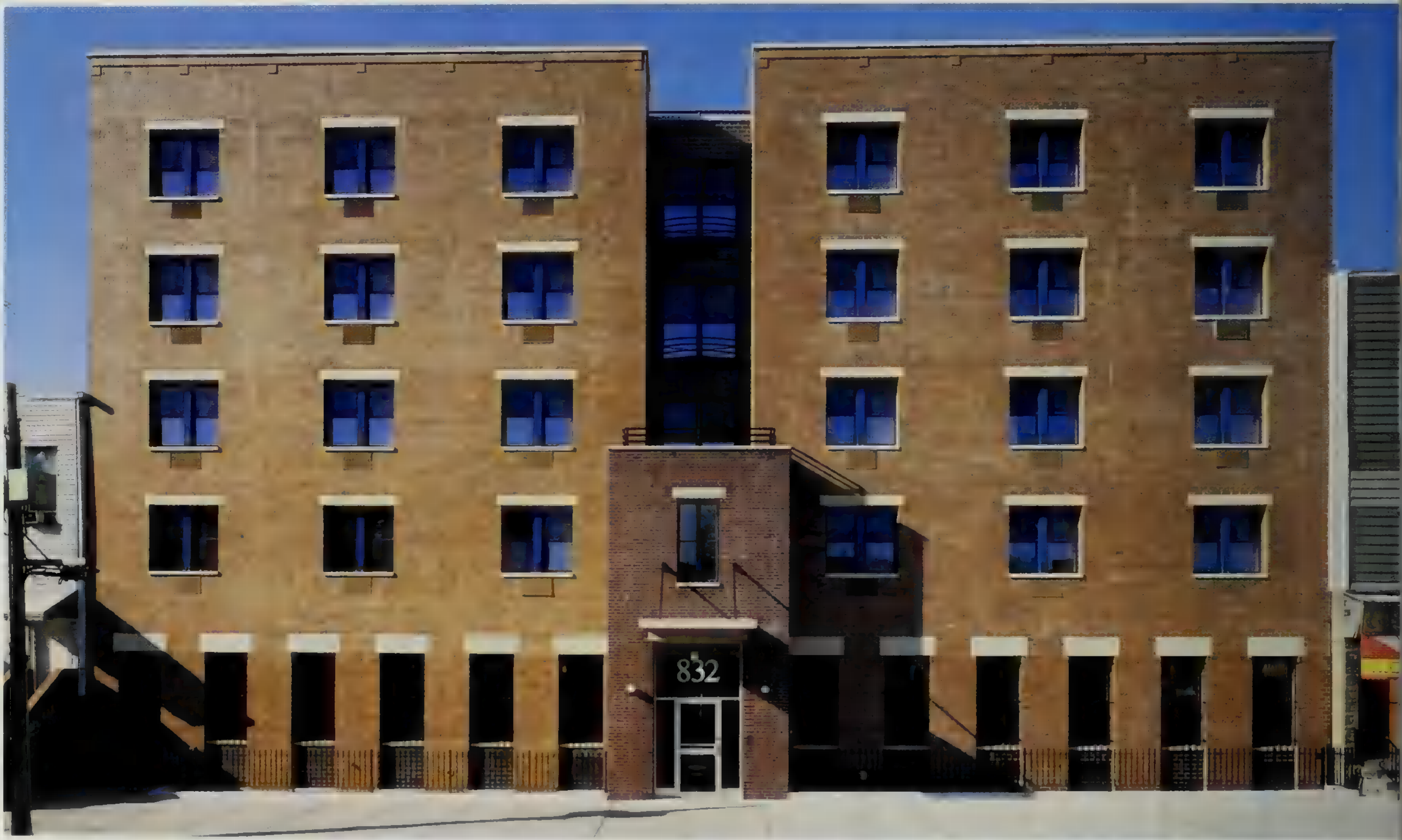
GROUND FLOOR (APARTMENT)

Although simple in plan, all of the for-sale and rental units at Homan Square have some kind of outdoor space that is their own—whether a small private yard or a balcony (plans opposite and left). Apartments are all 850-sq-ft flats that share the same plan (this page). Because the three-story apartment buildings have just two units per floor, each apartment gets three exposures and cross ventilation. Townhouses (plans, opposite top) are 1,160 square feet and include half-sunken basements that can be finished by residents later on. The living space of the townhouses is kept open to make the unit feel bigger. Single-family houses come in two sizes: 1,590 square feet (plans, opposite bottom) and 1,670 square feet.

SRO Residence

Brooklyn, New York
Architrope, Architect

When the New York State Office of Mental Health started a new program of "service-enriched" single-room-occupancy (SRO) housing in 1992, architect Jonathan Kirschenfeld convinced the agency that new construction would be more practical than renovating old buildings. Because the program called for buildings with 44 efficiency apartments, four married-couples apartments, and such "enriched" services as counseling, medication-management, and shared dining, Kirschenfeld argued it would be difficult to fit all that into an existing building shell. With each 240-sq-ft apartment having its own full bathroom and kitchenette, the plumbing requirements alone would have made converting an old structure a nightmare, says the architect. Flexibility was also a priority, since the buildings



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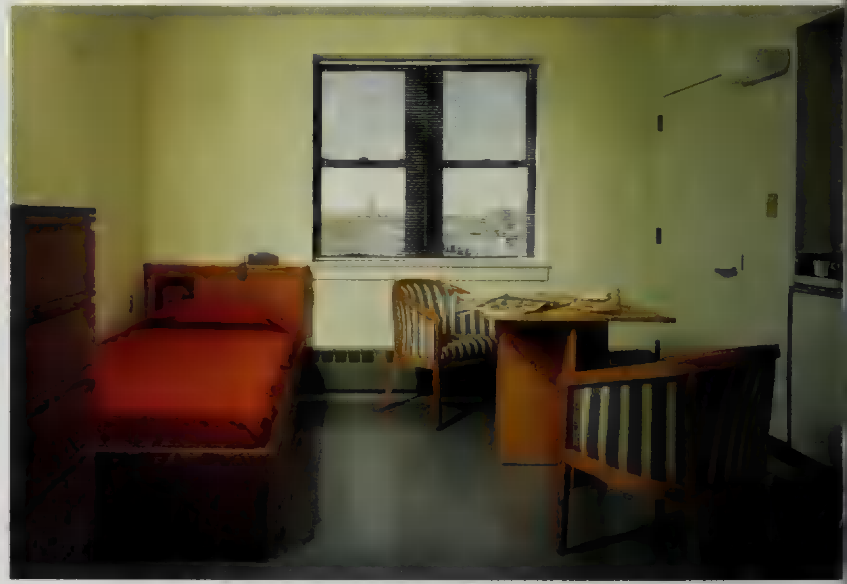
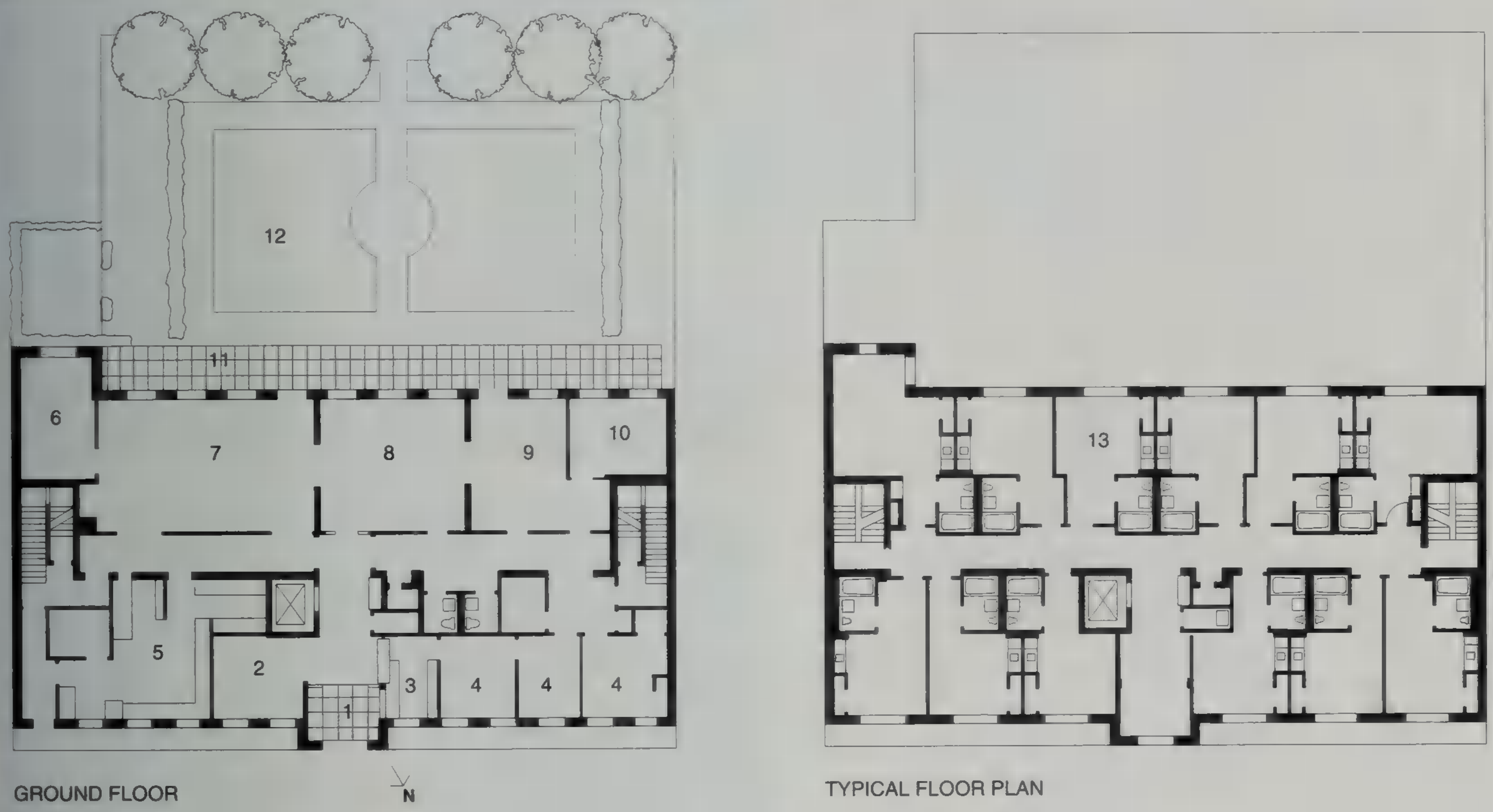


uld house special populations nging from the mentally ill to ug abusers. Three years later, state agency was eliminated a new Republican governor, t a prototype SRO, designed Kirschenfeld's firm Archi- pe and run by a non-profit ganization called Services for Underserviced, opened in ooklyn. The five-story, 24,200- -ft building was finished on ne for $2.83 million ($117 a square foot). Using a simple bearing-block-and-concrete-plank structure and an efficient double-loaded corridor plan for the apartment floors, the architect was able to lavish attention on a few important features—such as a finely detailed brick facade with 8-inch reveals around all openings. The result is a building that projects a sense of depth and solidity. Inside, the first floor is devoted to public spaces that benefit greatly from 11-foot ceilings, wood wainscoting, and furniture designed by the architect. By providing an attractive lounge and dining room overlooking a rear yard, the building encourages residents to practice their social skills, while allowing them to retreat to their own rooms. In the apartments, 8-foot-6-inch ceilings give some lift to the small units. *C.A.P.*

Credits
Client: *N.Y.S. Office of Mental Health/Services for the Underserved, Inc.*
Architect: *Architrope—Jonathan Kirschenfeld, partner-in-charge; Andrew Bartle, David Hess, design team*
Engineers: *Reynaldo Prego (M/E/P); Robert Silman Associates (structural)*
General Contractor: *Galaxy/Wolmar Construction*



GROUND FLOOR

TYPICAL FLOOR PLAN

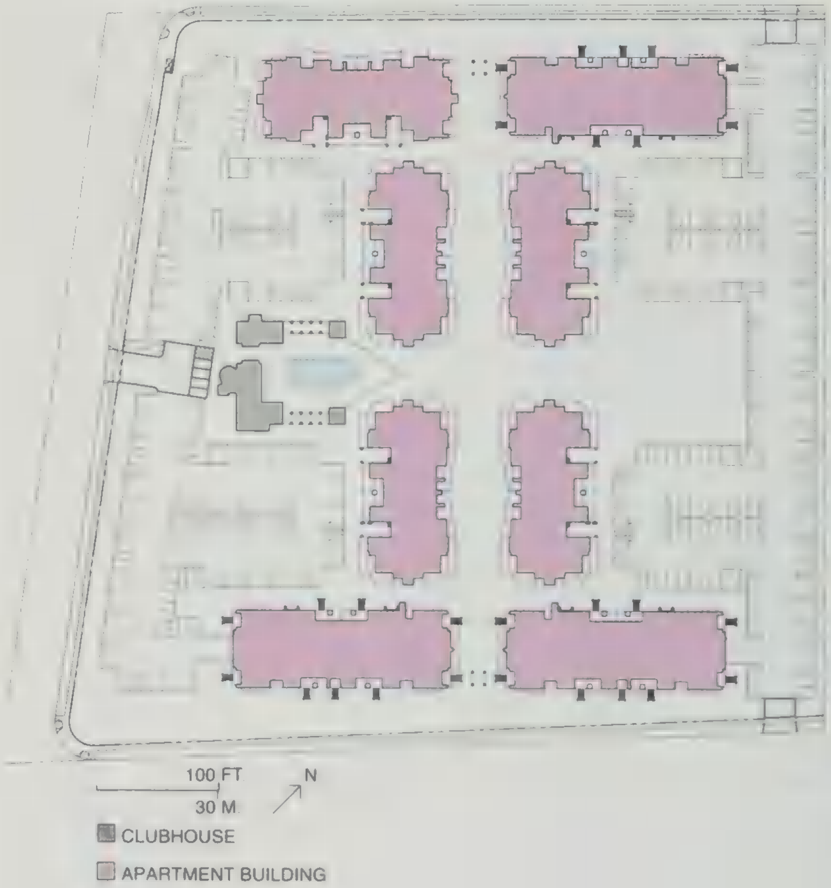
1. Entry
2. Waiting
3. Reception
4. Office
5. Kitchen
6. Library
7. Dining
8. Lounge
9. Multipurpose
10. Laundry
11. Porch
12. Garden
13. Apartment

Serving mentally ill veterans who pay rent with their Veterans Administration checks, the new SRO looks like an apartment building, not an institution. A rear yard has a basketball court and an awning-covered transition space between outdoors and in (opposite bottom left). Each 240-sq-ft unit (opposite bottom right) has a kitchenette, built-in closets, and a bed with storage below. A communal dining room (left) is on the ground floor and overlooks the backyard.

Los Esteros Apartments

San Jose, California
Fisher-Friedman Associates, Architect

Built by a local non-profit organization, First San Jose Housing, Los Esteros Apartments brings the best ideas of market-rate development to the affordable end of the housing spectrum. In fact, according to Rodney Friedman, the partner-in-charge of design, the eight apartment buildings here are better built and have better finishes than most market-rate projects. How is this possible? By eliminating a private developer's overhead a profit margin, by getting the cit of San Jose to supply some of t up-front equity to reduce the construction mortgage, and by using low-income housing tax credits, First San Jose Housing was able to apply more money t the buildings themselves. "It w great working with First San Jose," says Friedman. "Their only goal was to build the best project, not to make money."



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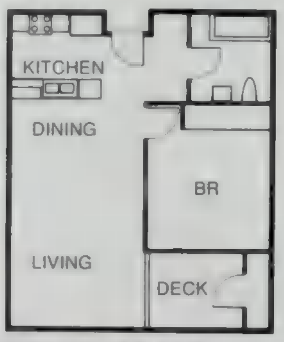
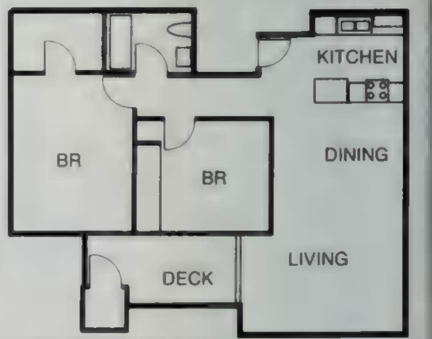


ONE BEDROOM UNIT



TWO BEDROOM UNIT

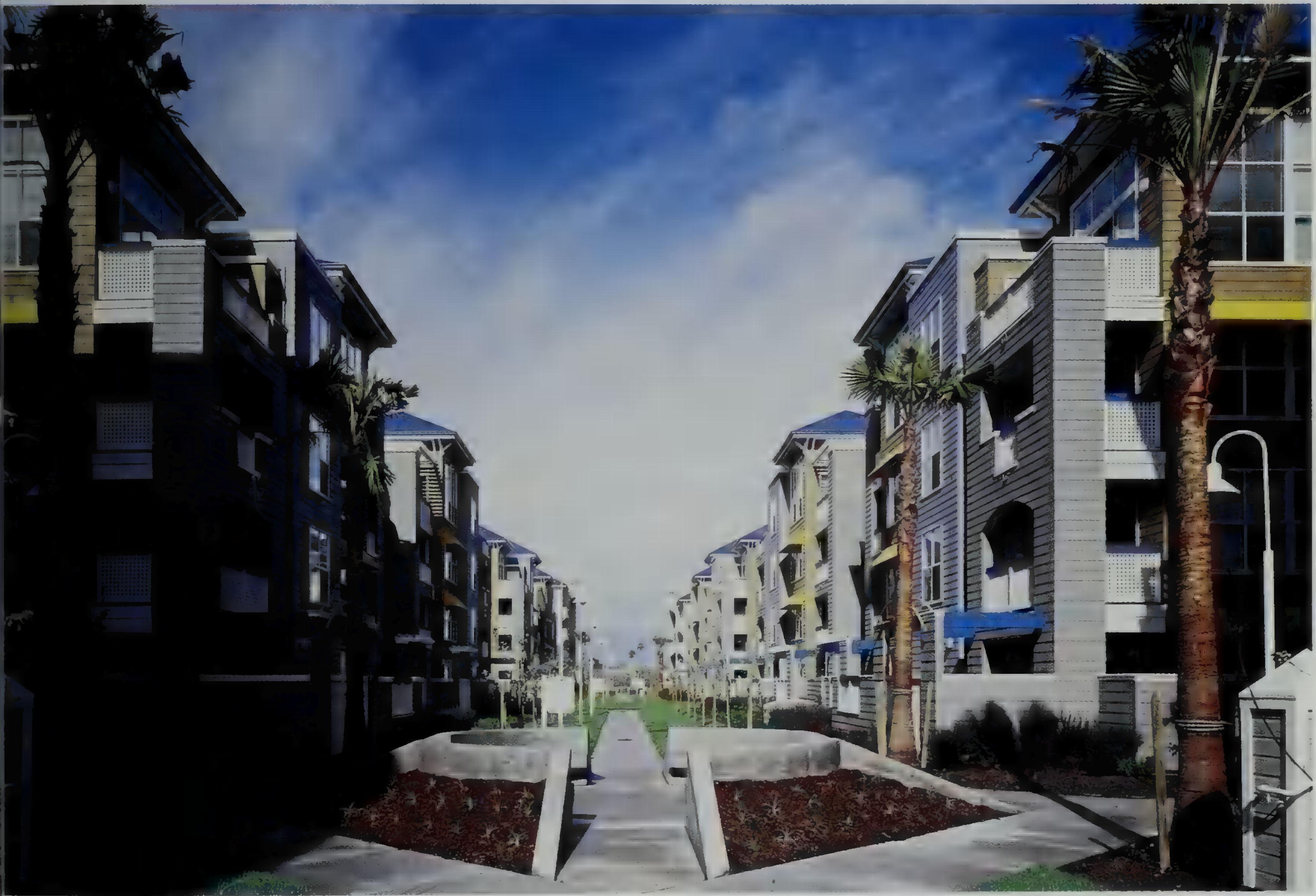
esigned to create a sense of
mmunity, the project includes a
00-square-foot clubhouse with
imming pool, a playground for
ts, and communal green areas.
addition, some of the apart-
ent buildings have front stoops
r socializing and all look onto a
ntral allée landscaped with
lm trees. All of the residential
ildings are four-story wood-
ame structures. Five are built
concrete slabs, while three are
built over a single level of half-sunken parking. Occupying a 7.7-acre site in a suburban part of a redevelopment district, the project includes 246 apartments: 12 one-bedroom units of 600 square feet, 150 two-bedroom units of about 850 square feet, and 84 three-bedroom units ranging from 1,104 to 1,400 square feet. In addition to the communal outdoor areas, the project provides a private outdoor space for every apartment—either a patio or a terrace. Top-floor apartments have extra-height living rooms, some with 14-foot ceilings. To break down the scale of each building and give it the look of a series of smaller attached structures, the architects used a variety of exterior materials (horizontal wood siding, cedar shingles, painted wood railings) and colors. C.A.P.

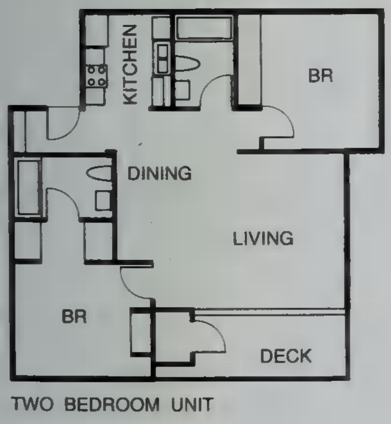
Architect: *Fisher-Friedman Associates—Rodney F. Friedman, partner-in-charge-of-design; Mark B. Steppan, project architect*

Engineers: *Sandis & Associates (civil); DASSE Design (structural); Design Engineering Services (mechanical)*

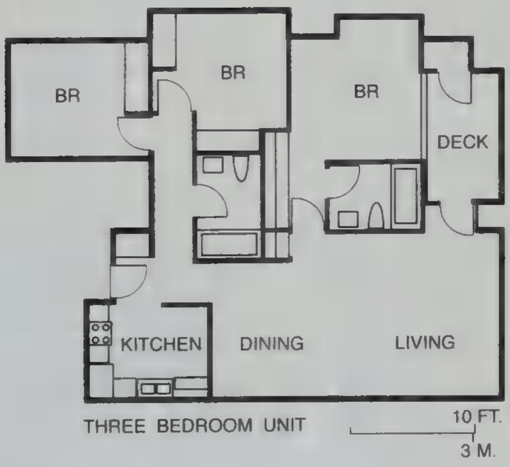
Landscape Architect: *Cottong & Taniguchi*

General Contractor: *Dow Builders*





TWO BEDROOM UNIT



THREE BEDROOM UNIT

Located in the Rincon de los Esteros Redevelopment district, this 246-unit project is organized around two main axes—a central allée (above) and a recreation strip anchored at one end by the clubhouse and pool (opposite top). Buildings erected over a half-sunken level of parking have stoops leading to first-floor apartments (opposite bottom). Units range from 600 to 1,400 square feet (plans left).

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Manufacturers Sources

For your convenience in locating building materials and other products shown in this month's feature articles, RECORD has asked the architects to identify the products specified.

Pages 56-63
Celebration Place
Aldo Rossi/Studio Di Architettura, Architect
Smallwood, Reynolds, Steward, Stewart & Associates, Associate Architect
Aluminum curtain wall and windows; stainless-steel and aluminum entrances: custom, fabricated by Tri-State Glass. Precast panels: Cast Crete-Kissimmee. Green-tinted and reflective glazing: Viracon, Inc. Built-up roofing: Schuller International, Inc. (Manville). Red Sandstone cladding: Stonecraft (Colorado). Lobby flooring: Gray Bardiglietto and Alabama White marble. Downlighting (lobbies): Omega. Wall-wash fixtures at reception: Juno Lighting. Cherrywood paneling: Specialty Millwork, Inc. (reception areas); The Wood Company (first-floor corridors). Solid-color paints: Sherwin-Williams, Stores Group. Multicolor coatings: California Products Corp. (Aquafleck). Circular railings: Fabricated by M&J Materials. Elevators: Fujitec. Pole-top globe-shaped luminaires: Sterner Lighting Systems, Inc. (custom design).

Pages 70-75
Charles B. Thornton Center for Engineering Management, Stanford University
Tanner Leddy Maytum Stacy, Architects.
Integrally-colored stucco: King. Aluminum-framed windows: Kawneer Co., Inc. Tinted glazing: PPG Industries, Inc., Glass Group. Straight-barrel clay roof tile: U.S. Tile Co. Gray coating on structural steel: Tnemec. Interior paints: Fuller Paint Co. Ceilings: USG Interiors, Inc. Classroom seating: Kreuger International. Elevators: Dover.

Pages 88-91
Homan Square
Nagle Hartray Danker Kagan McKay, Architects/Planners
EIFS: Sto Corp. Wood trusses: Walnut Custom Homes. Brick: Homan Masonry. Vinyl windows: Lakeview Windows. Exterior doors; Pease Doors. Wood doors: Morgan. Locksets: Schlage Lock Co. Countertops: Formica Corp. Resilient flooring: Armstrong World Industries.

Pages 92-93
SRO Residence, Brooklyn, New York
Architrope, Architect
Precast concrete: Spancrete Northeast, Inc. Ironspot brick: Endicott Clay Products. Builtup roofing: Schuller International (Manville). Steel-frame labeled windows: Optimum Window Mfg. Co. Aluminum windows: Mannix. Entrances: Ellison Bronze. Locksets and exit devices: Arrow Lock Mfg. Closers and operators: LCN. Texture paints: Sherwin-Williams, Stores Group. Laminate surfaces: Abet, Inc. (Abet Laminati). Resilient flooring: Azrock Industries. Vinyl wallcovering (dining): Wolf-Gordon. Exterior fixtures: Trimblehouse.

Pages 94-95
Los Esteros Apartments
Fisher-Friedman Associates, Architect
Exterior finish: Dryvit, Inc. Hardboard siding: Weyerhaeuser, Inc. Builtup roofing: The Celotex Corp. Corrugated-metal roofing: Carlisle Engineered Metals. Cedar shingles: Shakertown, Inc. Aluminum windows: Rylock. Wheelchair lift: G&T.

Continued on page 100

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Fax: 905/241-1733
Contact: J. D. Nixon

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What's IN the NEWS

GSD NEWS

You may be surprised by what you find in the alumni/ae magazine of the Harvard University Graduate School of Design

Since 1993, the GSD NEWS has published essays; book, lecture and exhibition reviews; and colloquia and conference talks that grapple with key issues related to design of the built environment and design education such as: the present and future architectural practices; uses and abuses of architectural theory; designers' power and influence; urban public space; ethics in design and practice; the design jury review system; non-traditional careers for designers.

Essays, images, discussions, and extracts have been published by Peter Rowe, Thomas Fisher, Jorge Silvetti, Rem Koolhaas, K. Michael Hays, George Baird, Peter Eisenman, Mohsen Mostafavi, Michael Graves, I. M. Pei, Philip Johnson, Peter Davey, Leo Marx, Richard Sennett, Alex Krieger, Eduard Sekler, Martha Schwartz, David Harvey, John Stilgoe, Henry Cobb, Nathan Glazer, Laurie Olin, Denise Scott Brown, Robert Campbell, Moshe Safdie, and many more.

Subscripti[illegible] per year: GSD [illegible] 48 Quincy Str[illegible] 02138; tel. 61[illegible] 495-9567. Back [illegible] of contents) cost $10 [illegible]

[illegible] tabloid-format magazine is [illegible] in September, February and [illegible] year. Issues average sixty-[illegible] length (with little or no [illegible] images per page.

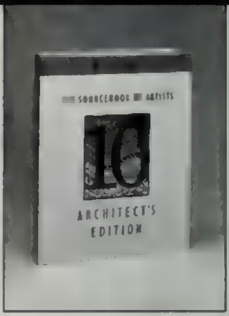
[illegible] on inquiry ca[illegible]

Product Literature

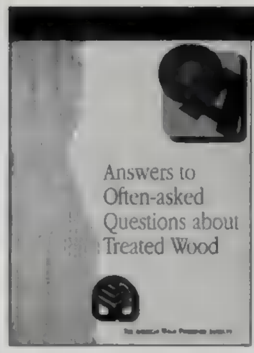
118. Document management
A free Guided Tour demo disk explains how a Virtual Printroom system moves critical documents throughout an engineering or design practice, using electronic digital masters created from any paper, aperture card, or CAD source. 703/787-2111. Xerox Engineering Systems, Herndon, Va.

119. Brick selection help
A new architectural support syster
Bricklink offers both design-idea a
technical guidebooks, a color palett
selection chart, a slipcased binder,
and six different portfolios holding
brick samples. Also available in 19
a Chip Express will deliver free sp
ification samples of any five bricks
within 24 hours. 800/5-BORAL-5.
Boral Bricks, Inc., Augusta, Ga.

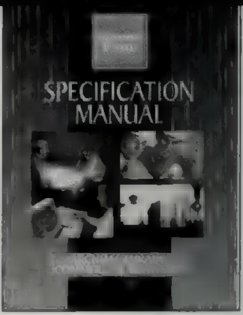
120. Global art on CD-ROM
ArtistAvenue is an electronic directory sourcing original paintings and artwork for corporate and private art consultants, architects, and interior designers. The disk allows access to over 800 images and information on 130 artists world wide, cross-indexed by artist name, media, price, subject, and style. Cost $24.95. 303/292-2230. K Street Systems, Denver.



121. Artist/artisan sourceboo
An Architect's Edition showcases t
work of 235 artists specializing in
commissioned, site-specific art, illus
trating work in ceramics, mosaics,
and wall reliefs; stained glass and
wrought metal; sculpture; and publ
art. Architectural restoration, a nev
section, lists over 100 active firms.
800/969-1556; free to qualified profe
sionals. The Guild, Madison, Wis.

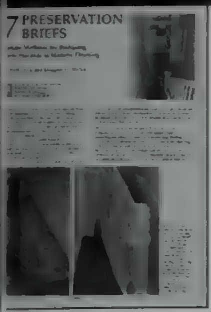


122. Longer-lasting wood
A design and technical manual explains how treating wood with preservatives extends the service life of structural members exposed to weather and decay and conserves timber resources. Gives environmental data for both preservative treatments and rot-resistant wood products. 703/893-4005. American Wood Preservers Institute, Vienna, Va.

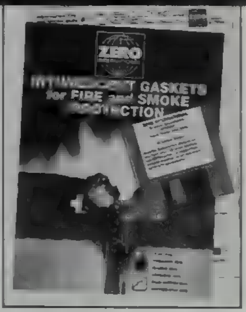


123. Stains and coatings
A 24-page catalog lists product spec
fications for coatings for various
surfaces and environments common
in commercial and residential applic
tions, including interior and exterior
paints, primers, wood stains, clear
sealers, and finishes. Includes appro
priate VOC data. 502/897-9861. Dev
& Raynolds Co., Louisville, Ky.

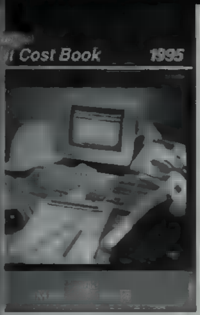
For more information, circle item numbers on Reader Service Card.



4. Reducing lead hazards
eservation Brief 37 describes how abate lead-paint hazards in historic using in economical ways that ain the original characteristics of architectural elements. Case-dy projects shown include a ston row house successfully apted for low-income housing. all charge. 202/783-3238. National k Service, Washington, D.C.

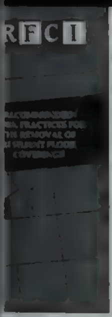


125. Intumescent door seals
A proprietary specification for Section 08720 in CSI SpecText format, Zero's *Fire and Smoke Door Seals* on disk (Macintosh and Windows) includes reference standards, building codes, definitions, installation and maintenance recommendations, and typical details. Fax letterhead requests to 718/292-2243. Zero International, Bronx, N.Y.



6. Unit-cost data
w Dodge books have local multipli- for over 825 geographic regions roughout the U.S. and Canada, ting local users estimate construc-n projects, establish preliminary dgets, or check estimates. A Metric sion meets federal requirements metric bids. Also available: rrent-cost software. 800/421-8042. rshall & Swift, Los Angeles.

127. Reinforced-concrete design
A 14-minute video, *Building Design Concepts, An Architectural Perspective*, takes a step-by-step approach to discussing all the major factors considered when selecting a structural system for all building types, both low- and high-rise. Other design aids highlight prominent built projects. 708/517-1200. Concrete Reinforcing Steel Institute, Schaumburg, Ill.



8. Proper flooring removal
36-page booklet, *Recommended rk Practices for the Removal of silient Floor Coverings*, describes hniques that insure compliance h OSHA's new permissible expo-re limit for asbestos, when followed trained personnel. 301/340-8580. silient Floor Covering Institute, ckville, Md.

129. Wood-polymer lumber
A catalog describes Trex, made from reclaimed plastic and waste wood, marketed for use in decking in marine, commercial, and residential applications. The material is listed by BOCA for such use, the first plastic or wood/plastic lumber to be accepted. 800/BUY-TREX. Mobil Chemical Co., Norwalk, Ct. ■

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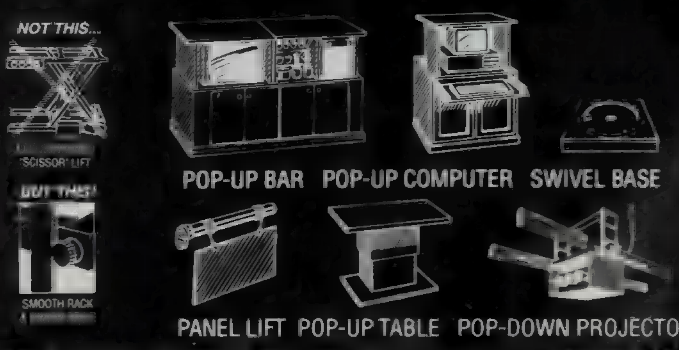

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Manufacturer Sources *continued*

Additional Information

For those wanting further information on the Environmental Home discussed on pages 24-29 and similar programs, these organizations will provide lists of environmentally oriented sources.

- Waterloo Region Green Home
Waterloo, Ontario, Canada
519/576-0306

- Timber-Tech house
Center for Resourceful Building Technology
P.O. Box 100
Missoula, MT 59806
406/549-7678
[CRBT also offers a *Guide to Resource-Efficient Building Elements*]

- ReCraft East
Kate S. Warner, Architect
P.O. Box 172
West Tisbury, MA 02575

- Environmental Showcase Home
Arizona Public Service Company
Box 53999, mail station 8510
Phoenix, AZ 85072-3999
602/250-2277

- The Harris Directory: Recycled Content Building Materials (diskette)
The Stafford Architects
1916 Pike Place, # 705
Seattle, WA 98101
206/682-4042

- National Recycling Coalition, Inc.
Building for Tomorrow guidebook
1727 King St., Suite 105
Alexandria, VA 22314-2720
703/683-9025
Fax: 703/683-9026

Multiple Chemical Sensitivities Homes

Information about both the Health House sponsored by the American Lung Association and the Multiple Chemical Sensitivities House designed for a private client can be obtained by contacting the architect:

- Rick Carter
LHB Engineers & Architects
250 Third Ave., North; Suite 450
Minneapolis, MN 55401
612/388-2088

Consider also, *Your Natural Home: The Complete Sourcebook and Design Manual for Creating a Healthy, Beautiful, and Environmentally Sensitive House*, by Janet Marinelli and Paul Bierman-Lytle. Boston: Little, Brown and Company, 256 pages, $21.95. ■

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Prizes: Luna Imaging, Inc., Venice, Calif. (http://www. luna-imaging.com), offers this year's prizes. *First Prize: Frank Lloyd Wright: Presentation Drawings*, an award-winning CD-ROM collection of nearly 5,000 drawings of more than 860 projects spanning Wright's career. Value: $1,500. Two second prizes will be awarded, *Houses of Frank Lloyd Wright*, a CD-ROM containing more than 1,000 drawings and photographs. Value: $199. Winning entries will be published in the June 1996 issue of ARCHITECTURAL RECORD and exhibited at the A/E/C/SYSTEMS '96 computer exposition.

Rules: Projects delineated can be real, potential, or speculative, but they must not have been previously published in a design or computer journal as either editorial or advertising. Images prepared solely for promotional use by manufacturers are also ineligible. An entry may be created on any platform, using any hardware or software. Submit hardcopy (maximum size 11 in. by 17 in.), 35mm slides, or VHS cassette (the latter only for animations). Submit single images, except where a suite of images is essential to describe the concept. Entries must be received by Wednesday, March 13, 1996. Entries remain property of owner, but may be republished in print and electronically. Entries accompanied by a stamped, self-addressed envelope will be returned. Queries: 212/512-4256 (fax); jarussel@mcgraw-hill.com (e-mail).

There is no entry fee, but information below is required for projects to be judged

Entrant's Name
Project Name
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State
Zip
Phone Number
Fax Number
Name of any firms providing imaging or output services

Please tell us the hardware, software, and output devices you used. List by company and brand name (i.e., Autodesk AutoCAD 12, Apple Power Macintosh 6100)

Names of collaborators (firms or individuals) who should be credited

Software 1
Software 2
Software 3
Software 4
Hardware 1
Hardware 2
Hardware 3
Hardware 4
Output 1
Output 2
Output 3
Output 4

Submissions should be mailed to:
James S. Russell, **COMPUTER DELINEATION AWARD** ARCHITECTURAL RECORD, 1221 Avenue of the Americas, New York, NY 10020

Letters *continued from page 4*

be present in anyone hoping for a successful and fruitful career in architecture:

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3. Values the contributions of others.
4. Appreciates the flow and meaning of history.

If this sort of screening and discipline were applied to admission to collegiate architectural schools, then the number of admissions and graduates would automatically be limited to the level the profession can absorb, and the quality of those graduating would be raised dramatically.

Frank Orr
Orr/Houk & Associates Architects
Nashville

Rediscovering Scharoun

Having spent time in Berlin recently working on Friedrichstrasse and as a juror for the competition surrounding the Lehrter Bahnhof, I just want to point out that the piece "Berlin Struggles to Remake Itself" RECORD, October 1995, pages 29-112] very accurately mirrors the conversations and debates I was involved in. I found only one point missing...and it's one that surprised me when I was there: namely, that Hans Scharoun occupies the towering high ground for the more romantic (and deeply German) modernist faction of the profession. His buildings continue to represent liberation from both the rigid traditionalists and the chilly modernists who dominate the debate. He seems to be free from political content and from historic pathologies. Worth thinking about.

I also did see Kollhoff's plan and model
Alexanderplatz. While it may look like
Battery Park City, the similarity is sup
cial. What defines Battery Park City is
setting of river, parks and streets, wher
commercial buildings sit comfortably in
benign environment. Kollhoff's composi
merely underscores the oppression of th
site and heaviness of the density.

Alexander Cooper
Cooper, Robertson & Partners
New York City

Corrections

▪ A sketch from the archives of The Arc
tects Collaborative, identified as the wo
Walter Gropius [RECORD, September 1
page 19], was actually the work of John
Harkness. Harkness and Gropius worke
together as partners-in-charge on the d
of the American Association for the Adv
ment of Science Building.

▪ The credits for the Columbus Regiona
Hospital [RECORD, November 1995, pag
100-103], should have included Walter P
Moore and Associates as structural engi
not P.S.S. Partnership. In addition, John

continued on page 103

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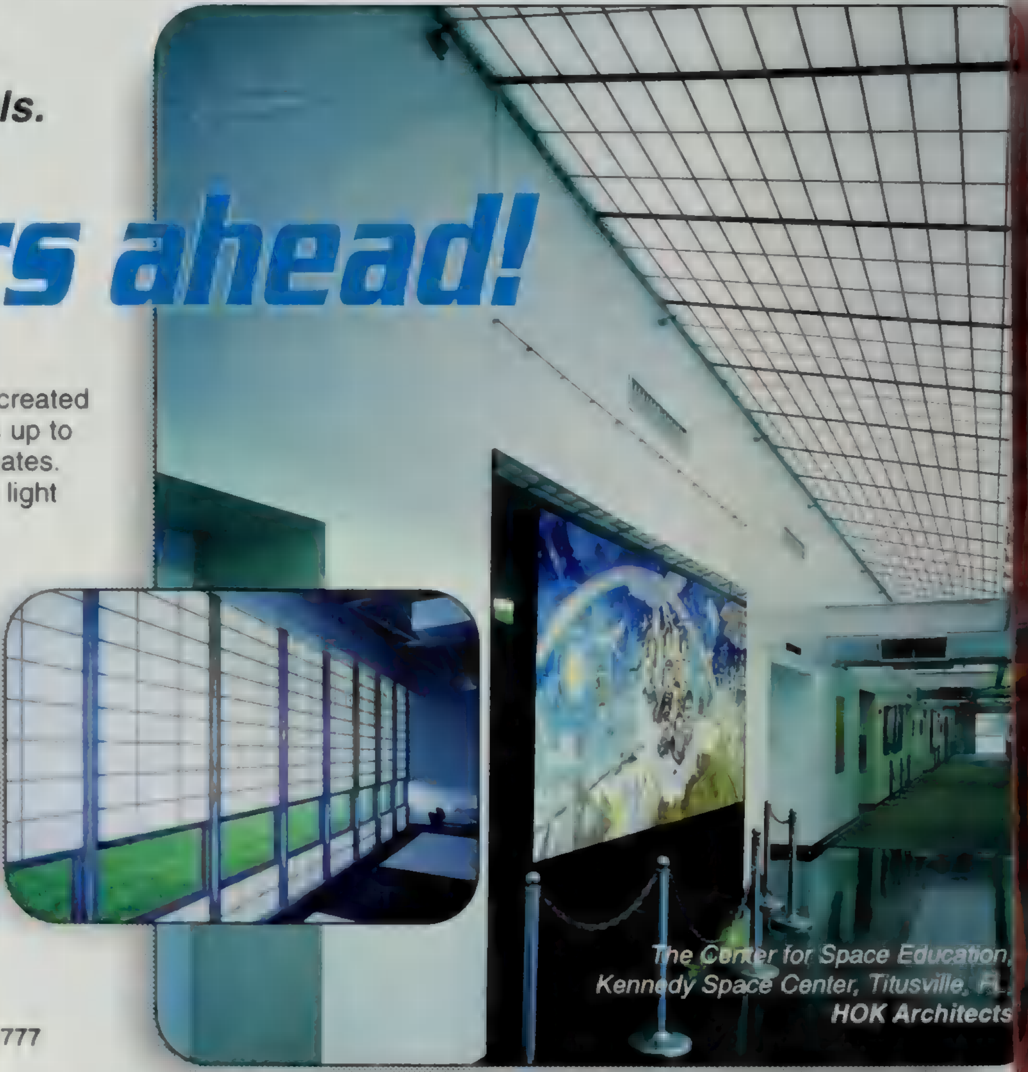
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lendar *continued from page 4*

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ie Civil Engineering Research Foundation 'ERF) will hold a symposium in Washingn, D. C. titled "Engineering and onstruction for Sustainable Development in e 21st Century." Limited to 600 particints. For Registration information, fax ERF Exhibit Manager, 703/524-4672.

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arch 28-Panos Koulermos
pril 11-Pierre Koenig
ay 16-Peter Eisenman
ine 13-John M. Johansen.
all 310/821-0911 for information.

bruary 18-April

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Competitions

- Entries for the Hugh Ferriss memorial prize must be received by January 12. Call American Society of Architectural Perspectivists at 617/951-1433 ext. 225 for entry form.
- Entry deadline to the Chicago Athenaeum's "Midwest Villa" competition is January 15, 1996. Call 312/251-0175 for details.
- Competition for the design of the Kansai-kan library has a registration deadline of January 16, 1996. Address inquiries to:

Kansai-kan of the National Diet
Library Design Competition Office
Government Buildings Dept.
Minister's Secretariat
Ministry of Construction
Central Government Bldg. No. 3
2-1-3 Kasumigaseki
Chiyoda-ku
Tokyo 100, Japan

- Entries to the Benedictus Award competition for architectural projects using laminated glass are due March 1, 1996. Call 202/393-5247 for information.
- Entries to the Young Architects Competition are due February 12, 1996. This year's theme is "form." Call 212/753-1722 for information.
- Entries to the Bucharest Town Planning Competition are due March 20, 1996. Deadline for inquiries is January 31, 1996 by fax to Romania (40.1) 312 09 56.

Corrections *continued from page 102*

Crane was principal-in-charge at Falick/Klein Partnership; Cynthia Watson, FKP, was medical designer and project manager.

- The LAC+USC Medical Center project appeared in the article "Are Big Hospitals Dinosaurs?" [RECORD, November 1995, page 98]. Lee Burkhart, Liu (LBL) was given sole credit for the design of the $1.2-billion replacement hospital for the Los Angeles County-University of Southern California Medical Center. In fact, HOK and LBL are joint venture partners in the planning and design of the project. ■

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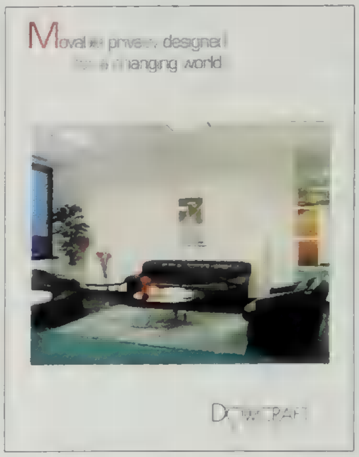

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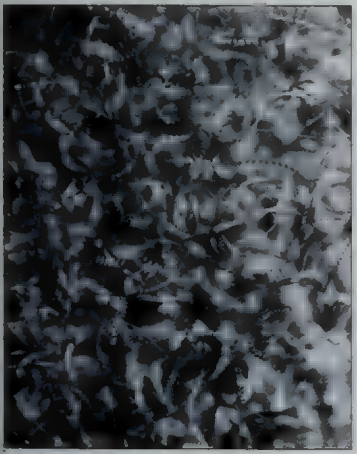

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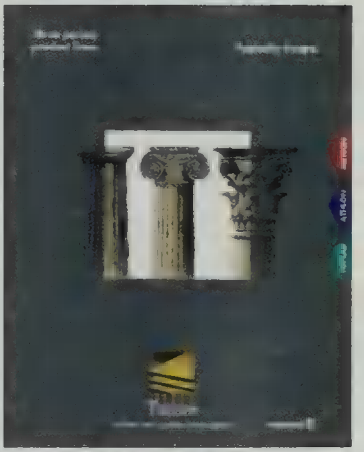

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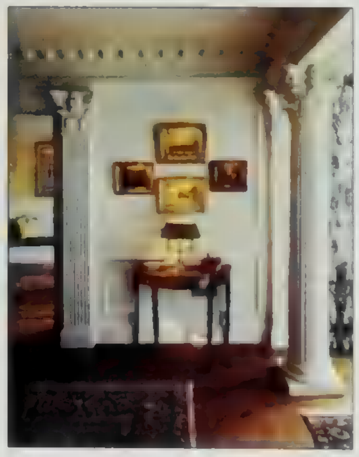

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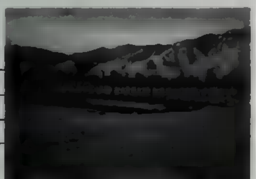

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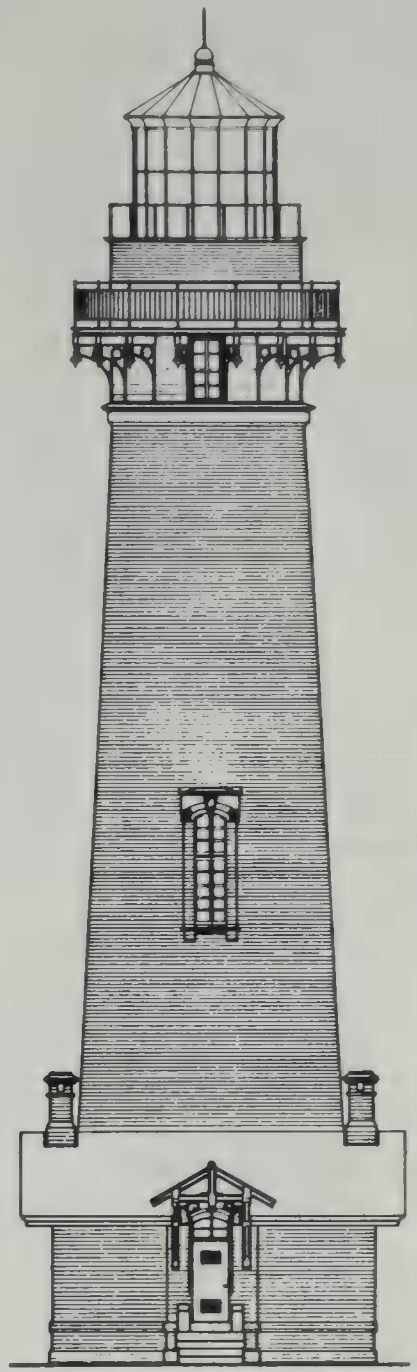

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E
Efco Corp., **10** ; *6* [G]
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Follansbee Steel, **49** ; *17* [G]
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G
Glen Raven Mills, Inc., **8-9** ; *5* [G]
(919) 227-6211
GSD News, **98** ; *26*
(617) 496-8728

H
Hewlett-Packard Co./Designjet, **2** ; *2*
(800) 851-1170
House Beautiful, **44** ; *15*
(212) 903-5114

I
Inclinator Co. of America, **100** ; *28* [G]
(717) 234-8065
Intuit, Inc., **22**
(800) 781-6999
Italian Trade Commission - Tile Center, **96-97** ; *24*

K
Kalwall, **102** ; *29* [G]
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L
Lutron, **Cov.IV** ; *50* [G-C]
(800) 523-9466

M
Mannington Commercial, **14** ; *8* [G]
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Manufacturers' Spotlight,**104 to 106** ; *31 to 48*

S
Seiho International, Inc., **98** ; *25*
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Sloan Valve Company, **6** ; *4* [G-E]
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SoftCAD, **40** ; *14*
(800) SOFTCAD
Structural Board Association, **103** ; *30*

V
Visa Lighting Corp., **35** ; *13*
(800) 788-VISA

W
Weyerhaeuser Architectural Door Div., **20** ; *11* [G]
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Zero International, Inc., **34** ; *12* [G]
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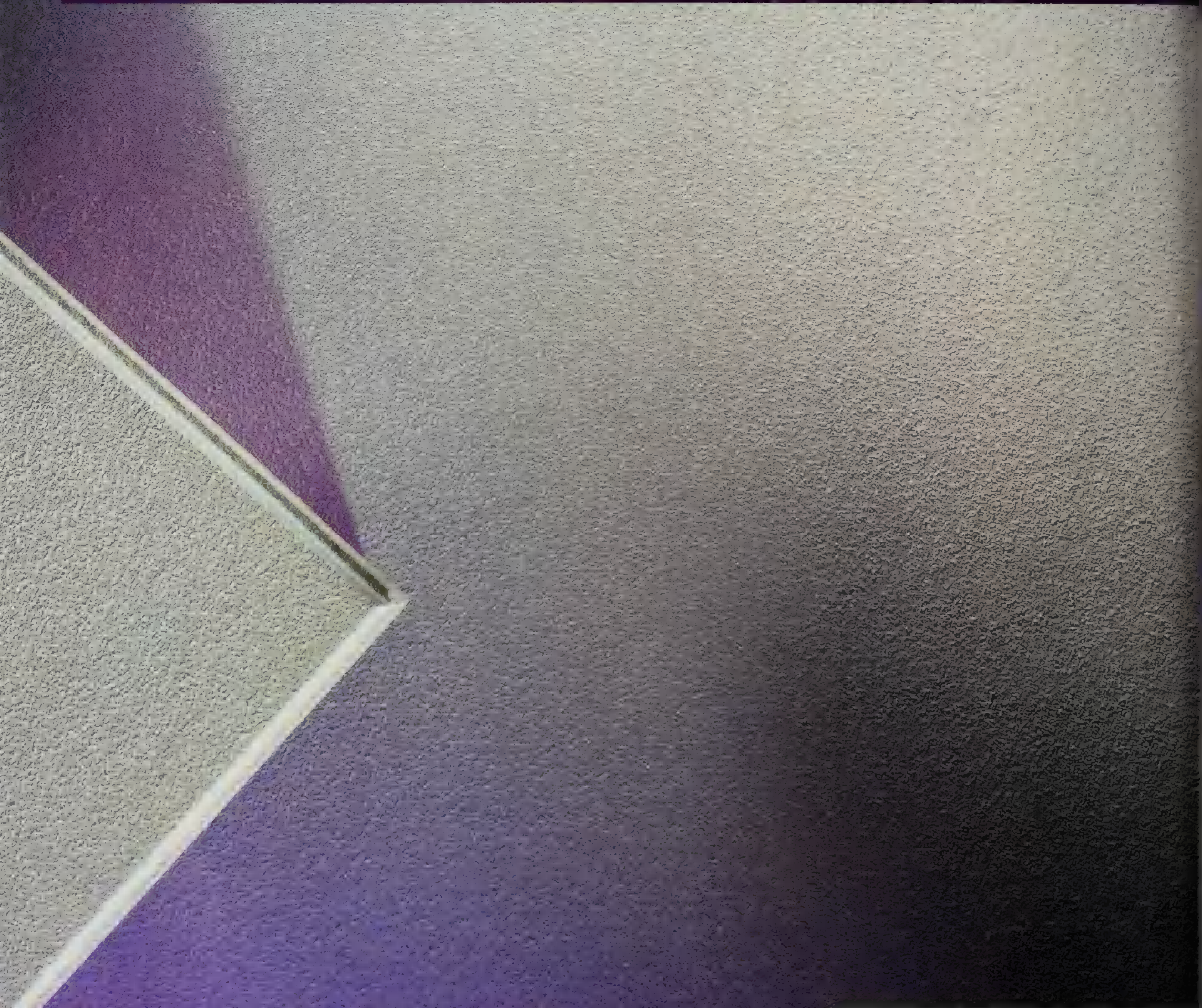

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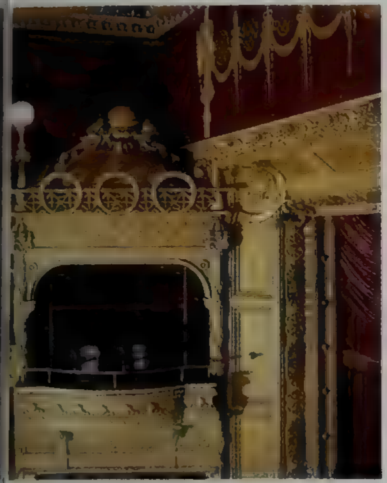
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lichael Maltzan Architecture
larmol & Radziner Architecture,
rchitects
Erich Koyama photo

FEATURES

Introduction 61

Salick Health Care 62 — *Morphosis, Architect*
Los Angeles

The New Victory Theater 66 — *Hardy Holzman Pfeiffer Associates, Architect*
New York City

Gilmore Bank 72 — *Koning Eizenberg Architecture, Architect*
Los Angeles

The Brearley School 76 — *Platt Byard Dovell Architects*
New York City

Mark Taper Center/Inner-City Arts 78 — *Michael Maltzan Architecture*
Marmol & Radziner Architecture, Architects
Los Angeles

Building 15
Hewlett-Packard Company 84 — *Skidmore, Owings & Merrill, Architect*
Palo Alto, California

The Wolfsonian 86 — *Mark Hampton, Architect*
William S. Kearns, Associate Architect
Miami Beach, Florida

Showers Center 92 — *The Odle McGuire & Shook Corporation Architects*
Bloomington, Indiana

National Minority AIDS Council Headquarters 96 — *CORE, Architect*
Washington, D.C.

Focus on Renovation 98 — *From Ship to Shore*

THE PROFESSION

Indicators 31 Demographic trends
Non-Traditional Services 32 Redesigning the Architect
Indoor Air Quality 36 Some New and Some Old Sick-Building Culprits
Roofing 42 An Arena Trades in Cables for Trusses
Software Reviews 49 Microstation Gets a Facelift; Conversions Plus
New Products/Briefs 52 Renovation and Access

Editorial 9 Wanted: Better Background Architecture

Letters/Calendar 4
News 11
Books 25
Product Literature 104
Manufacturers' Sources 105
Classified Advertising 128
Advertising Index 130
Reader Service Card 131

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Letters

Minorities in Architecture

With reference to your important editorial in the December 1995 RECORD, page 9, I have a few comments.

Really, there's no such thing as a good "minority" architect, only a good architect, when freed from a "double standard" assessment and cooperated with in the marketplace of today by his peers—by "non-minorities," as Fred Friendly of Columbia might say.

Status and independence come from within, and the "miracle" is that a Paul Williams, a minority of the past in much tougher times, can still be replicated to various degrees today by current, really qualified architects and can be welcomed in architects' subtle "artsy" clubs.

Also, women's issues and the "disabled" are different, as G. Gilder's *Sexual Suicide* brought out some years ago. People are people, and, yes, the future is important. And so is "modest work" done well, as well as large "creative" assignments, honestly shared.

Sydney L. McGrath, P.E.
"Minority" Structural and Civil Engineer
Poughkeepsie, New York

Regarding Mubarak Dahir's article on affirmative action [July 1995, pages 32-33], I was pleased to see RECORD dedicate two pages to the article. That demonstrated a major editorial commitment. There were some interesting statistics and some good questions and comments. However, the author didn't seem to establish a point of view or perspective, nor did he attempt to analyze the information he had gathered.

The statistics of 100,000 architects in the country and only 1,064 African-American architects, when seen in isolation from figures for the population as a whole, are misleading. I think the article should have pointed out that appreciable increases did not begin until the 1970s when the Civil Rights Movement changed the conscience of the nation. The increase in the number of African-American architects has occurred in just a 20-year period—a pattern of growth for minorities and women which is also reflected in professions such as teaching, law, medicine, and engineering.

For example, in the 1960s there were fewer than 15 African-American architects in Philadelphia. Today there are approximately 100. From my perspective, the section of the article that discussed the importance of increased visibility was perhaps the best. The article mentioned that the AIA's Second Annual National Diversity Conference was to be held in San Francisco, August 11-13, with the theme "Building Bridges-Diversity Connections." San Francisco could have been emphasized more as an example where positive steps are under way. The AIA chapter there is both diverse in terms of the people who practice there and the kinds of architecture they practice. The architecture community there has a long history of activism as well.

Michael Willis, president of AIA San Francisco, is an African-American and a principal of Willis & Associates. He has been working in his practice to raise visibility so people can see this diversity. One of his goals at chapter conferences is that attendees learn from the San Francisco professional climate and experience. The voluntary diversity that has developed in

continued on page 100

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Atelier Forum Ltd. "New York Avenue: Ideas Wanted" exhibition of work by architects and designers of proposals for the New York Avenue corridor will be on display. Call 202/945-6532 for Washington, D.C., location.

March 7-8
Design-Build America Conference, Hyatt Regency, Chicago. Call 617/965-0055; fax 965-5152 for details.

March 12-16
"Making Cities Livable Conference," Carmel, Calif. Fax 408/624-5126 to request more information.

March 13-15
WestWeek 96, Pacific Design Center, Los Angeles. Call 800/421-9537 or fax 310/475-6881 for details.

March 15-May 2
"Civic Lessons: Recent New York Public Architecture" exhibition will display 69 projects initiated by 23 agencies at The Rotunda, Alexander Hamilton Custom House, Bowling Green, Manhattan. Sponsored by the New York Chapter/AIA and the New York Foundation for Architecture. A day-long symposium on April 18 is also scheduled. Call 212/663-0023 or fax 696-5022 for more details.

Through March 22
The paintings of Lida Stifel, whose work incorporates fragments of architectural plans, is on display at the AIA Library and Archives, 1735 New York Ave., Washington, D.C., from 9 am to 5 pm. Call 202/626-7300, fax 626-7421 to request more information.

April 10-12
Conference on Urban Infrastructure for the 21st Century, Los Angeles Convention Center, includes a Green Business Conference and Trade Show on April 12 and a Conference on Alternative Transportation April 10-12.

continued on page 106

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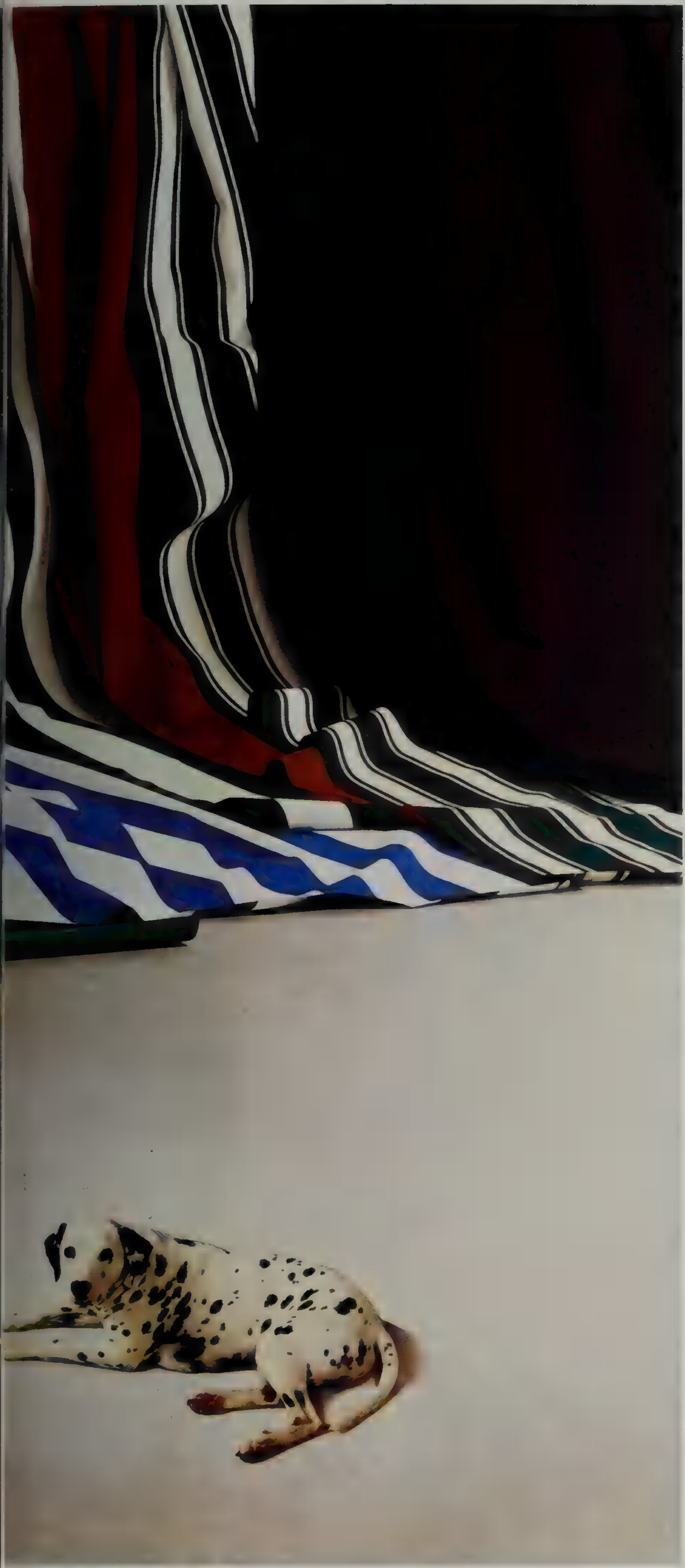

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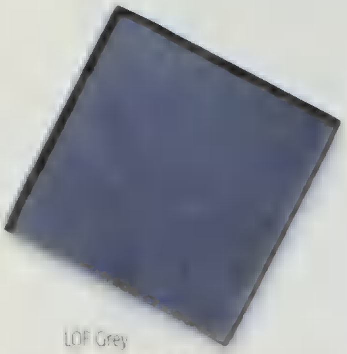

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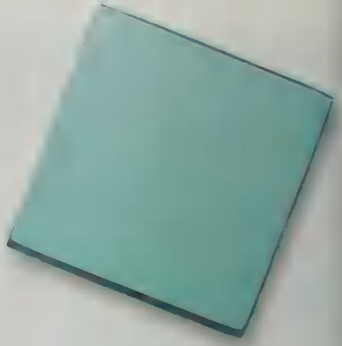

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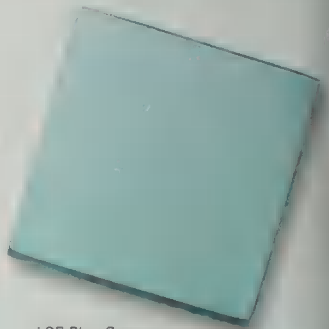
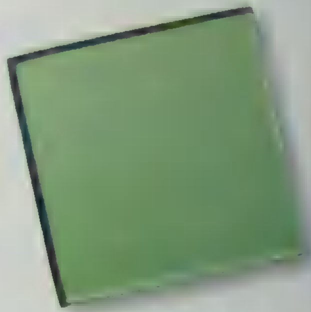


LOF Blue-Green Tinted Float Glass



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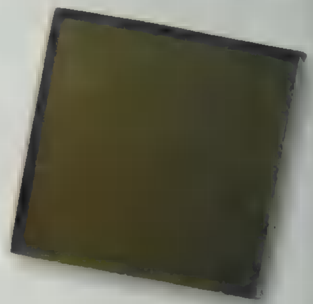

LOF Bronze ECLIPSE® Reflective Glass

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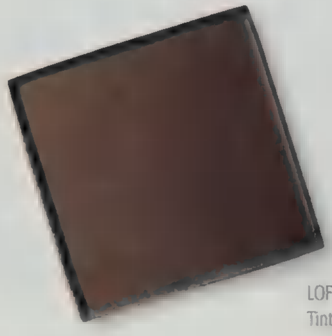
LOF Gold ECLIPSE® Reflective Glass



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ARCHITECTURAL RECORD Editorial

Wanted: Better Background Architecture

It was once said of a certain politician that he was a modest man, and that he had a lot to be modest about. Quite the opposite is true of what must be one of the great unfulfilled challenges on today's American architectural scene, namely, the cavalier attitude toward the modest-sized building.

A plea for modesty may seem odd in a culture that worships size, especially because size is often a condition of economic viability. It is, moreover, exported in great volume around the globe, where it is often oblivious to the sensitive fabric of local life styles.

Architects cannot ignore the multi-pronged potential of the modest commission—the medical office building on a suburban street, a branch bank, a small housing group, a neighborhood fire-station. Despite the attention lavished on huge new transportation nodes, gargantuan shopping centers, and enormous mixed-use office/hotel/convention complexes, no less than 45 percent of the nation's non-residential building and apartment construction falls in the $3 million or under category, according to F. W. Dodge. The sum total of these modest-sized buildings continues to dominate the character of all but the highly built-up districts of our towns and cities.

The picture is often not a pretty one. Far more care must be given to the way such buildings are grouped and sited, to context and scale, to materials and detail. The buzz word used to be "background" architecture. What Boston's Louisburg Square, the old squares of London's West End, the rows of houses climbing up and down hill in San Francisco and Baltimore, the shopping streets of the old Hudson River towns such as Cold Spring, the warehouse and loft districts in Los Angeles and New York City's Tribeca, the simple dorms and classroom structures in Harvard Yard, the streets of Galena, Illinois, have in common is the quality of unassuming power, of welcoming the resident and visitor without reaching for the grand gesture, of sharing a sense of place rather than offering up a crazy mix of structures where each component competes loudly for attention.

The potential for doing good at a small scale is extended by the thriving state of preservation activity in our economy and culture. Anyone following the statistics in recent years won't be surprised by the fact that preservation work in most architectural firms' workload has become routine. According to the American Institute of Architects, such work now makes up over 37 percent of member firms' workload, and while figures on non-member firms are less easy to come by, it's reasonable to assume that the phenomenon extends to them too.

Much preservation work is modest—a small Civil War monument converted into a museum (see page 98), an auto body shop made over into an alluring arts center for children (page 78), an undistinguished one-story, 1960s bank updated to a fresh, welcoming facility for the 1990s (page 72). What's more, recycling these older buildings is environmentally very sound, because they typically sit over an existing infrastructure, require no new land, and help to jump-start what was, and could again be, a beloved background setting for living and work.

But giving new life to existing buildings and neighborhoods through renovation isn't enough. It is just as important, and a lot tougher, to tackle the challenges of new construction. That's where the architect, especially the practitioner plying his/her profession in smaller towns, or in the neighborhoods and communities of our larger cities, needs to look for opportunities for small scale, modest size, and the chance to enhance the image of the profession. *Stephen A. Kliment*

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phen A. Kliment, FAIA

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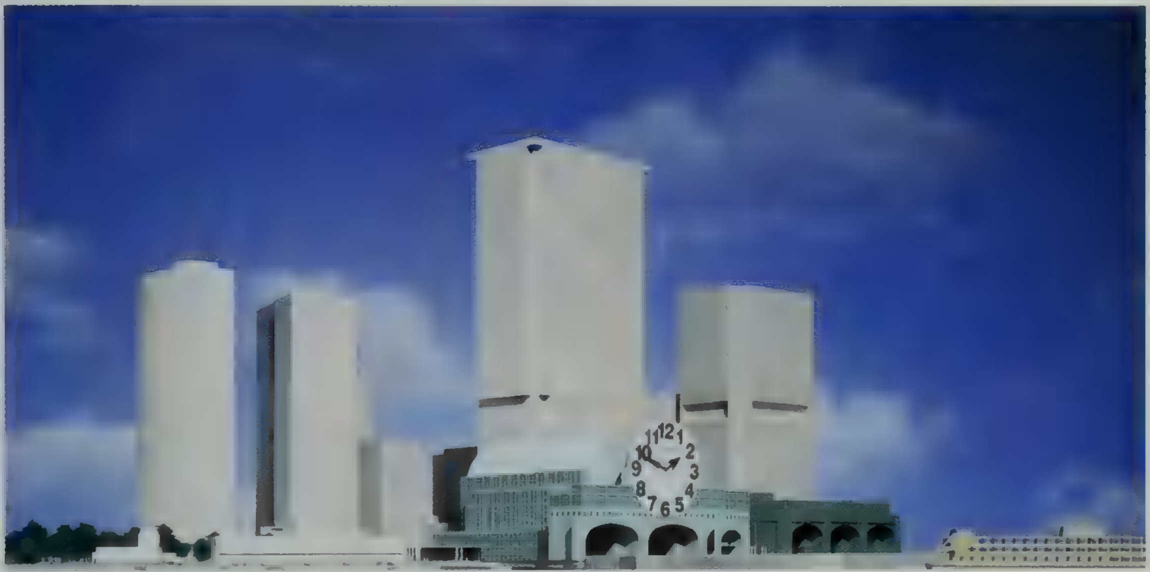
ew York City

Less-Decorated Shed for Staten Island Ferry

enturi, Scott Brown and Associates' (VSB)
inning design for the Whitehall Ferry Ter-
inal (with Anderson Schwartz), a replace-
ent for a structure damaged by a 1991 fire,
mbedded itself in international architectural
emory for its gigantic clock scaled to the
owering skyline behind it—a beacon to trav-
lers from Staten Island (1). Funding from
he federal, state, and local level has fallen
hort of the original $120-million budget. So
he architects have proposed a new scheme
ans clock and a vaulted waiting hall, which
as to display a huge LED interior sign. Offi-
ials predict they will soon have in hand the
ecessary $73 million for the current design
city-facing side, 2).

roject sponsor, The Economic Development
orporation, once saw a prominent work of
rchitecture as invigorating a somewhat
eglected part of the city, but has received
ittle support from the current administra-
ion. Indeed, Guy Molinari, president of the
orough of Staten Island and an ally of the
nayor, has made the scheme a personal
ause. When the architects proposed replac-
ng the clock with an LED zipper sign,
olinari called it, "Las Vegas on the Manhat-
an waterfront," a comment VSB might have
velcomed in another context. On the other
and, the city is struggling to revive lower
Manhattan, largely abandoned by Wall Street
irms, and the ferry terminal could become a
alpable signal of renewal. *J.S.R.*



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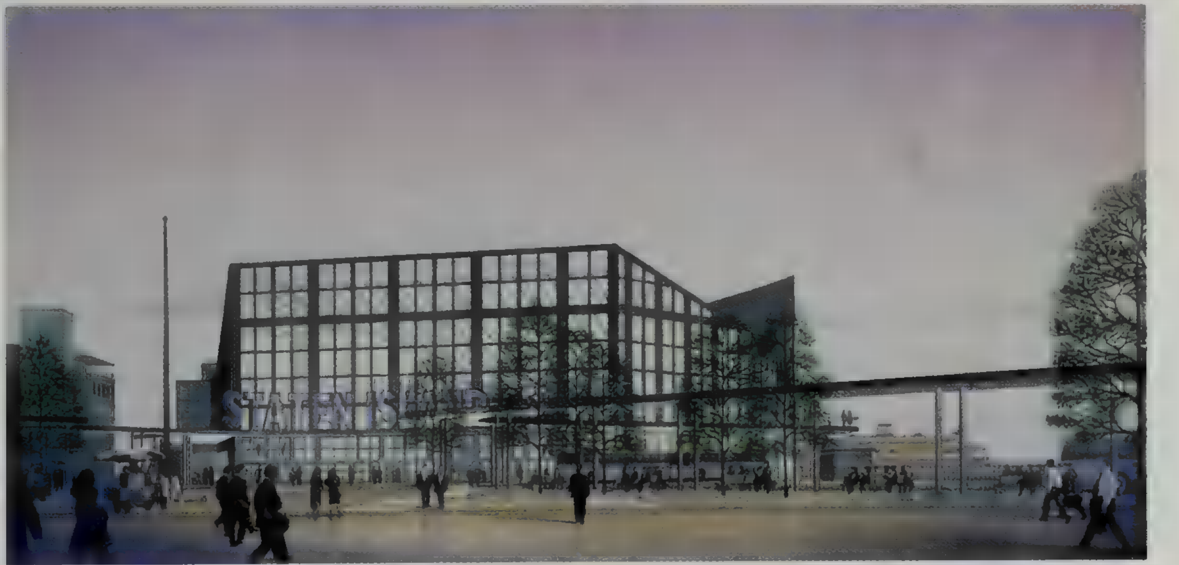

2

News

Briefs

ire damages building, kills animals
he Philadelphia Zoo's World of Primates by
enturi, Rauch and Scott Brown [RECORD,
ebruary 1987, pages 120-125] was damaged
y fire in late December. Blamed on faulty
wiring, the fire did not do severe structural damage, but smoke killed the animals, which were endangered species. The Zoo is reviewing procedures that permitted the fire to burn for hours before an alarm was turned in. Repairs await fundraising.

Torre out at Cranbrook

Susanna Torre is no longer director of Cranbrook's Academy of Art. After over a year on the job, Torre has been dismissed and is filing suit against the institution. Neither party can comment until legal issues are resolved.

Sports wins out over opera

Britain's Millennium Commission has turned down a request to help fund the radically elegant Zaha Hadid-designed Cardiff Opera House in Wales. The Commission, which has already allotted nearly $2 billion for arts-related projects, found the project too risky. Speculation is that the money needed by the Opera House has been slotted for a rugby stadium instead. "People are used to mediocrity," says Hadid. "It's sad."■

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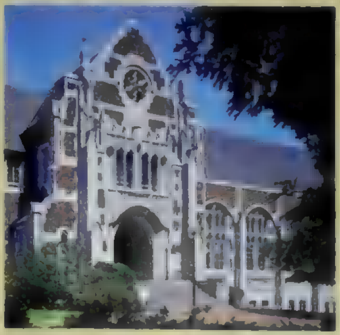

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)rawing a Ring Around Boston: Civic Activists \re on the Move

 the past few years a group of Boston area ban designers and architects has devoted uch time and unpaid effort to proposing .d energetically championing a large-scale etropolitan plan called the Urban Ring.

troduced in 1992 at a public charrette at ortheastern University, the Ring has been rongly supported by the Boston Society of :chitects, which that same year began spon- ring monthly meetings to discuss and velop the idea.

 its most literal definition, the Ring is a oposal for a transit loop around central oston—a system of new dedicated-lane bus ıes and existing subway and surface routes at would link a series of new and existing ansit stations. Such an intermodal system ould, supporters of the plan argue, dramati- lly shorten the public-transit distances etween many sections of the city, and thus elp reduce car traffic and improve air uality.

ut proponents of the idea emphasize that ansportation is simply the sensible, neces- ry means to a more ambitious and portant end: specifically, the redevelop- ent of large sections of metropolitan oston, particularly the de-populated, de- dustrialized zone (found in most of the ation's older cities) between the city's thriv- g center and its affluent suburbs.

"The Ring is really about galvanizing Boston's older neighborhoods, about channeling private and public development to key places throughout the region," says urban designer David Lee, of local architecture and urban-design firm, Stull and Lee Associates, an early backer of the proposal. "In this sense it's not really a ring, but a development corridor."

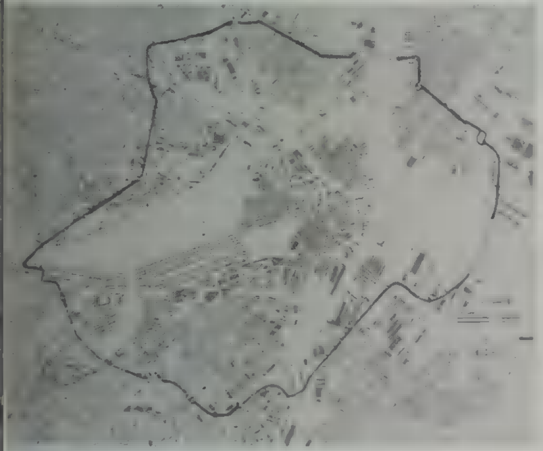
Architect George Thrush, director of the architecture program at Northeastern University, concurs, pointing out that the Ring seeks to reverse the decades-old trend toward decentralization. "The Urban Ring is not simply about improving public transportation," he says, "but about creating a new layer of truly civic space."

For several years, the idea was of interest mainly to academics and design professionals, and, in fact, little tangible progress is apparent: to date its implementation consists of three new bus lines. Recent events, however, suggest that the concept has gained notable momentum in the region's political, institutional, and business worlds.

This fall, the Massachusetts Bay Transit Authority (MBTA), the region's transit agency, has been authorized to use $5.1 million in federal and state funds for a "major investment study" of the project. Also this fall, the mayors of Boston and six surrounding cities signed a "Circumferential Ring Planning Compact," pledging cooperation with the MBTA study and general support of the project's goals. Marisa Lago, director of the Boston Redevelopment Authority, stresses that the idea offers multiple benefits to metropolitan Boston. "The idea works on various levels," she says. "It works on the level of public transportation and of environmentalism, it works on the level of institutional and commercial viability, and it works on the level of regional cooperation."

In the past year, the Circumferential Transit Employers Coalition—a group formed two years ago to lobby for the Urban Ring, and whose members include such important institutions and businesses as Northeastern, MIT, the Massachusetts General Hospital, and Polaroid—has seen its membership of organizations almost double to 70.

As Sarah Hamilton, director of area planning and development for the Medical, Academic and Scientific Community Organization, a non-profit consortium of area hospitals, notes, "Boston's current transit system is simply inadequate for our medical and academic community, and for many of the institutions outside the center of the city. So we are very enthusiastic about the Urban Ring—it's an important solution to a pressing problem."
Nancy Levinson



drawing of metropolitan oston shows a potential route f the Urban Ring (above). xisting transportation infra- tructure would be incorporated nto the plan (photos right)

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ımpetitor Buys, oses P/A

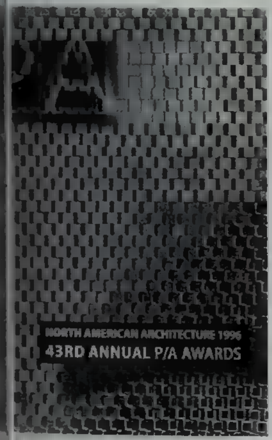
ıcribers to *Progressive Architecture* did eceive the January awards issue last th. Instead, they were sent its competi-*Architecture,* which bought *P/A* from nt Penton Publishing and closed it, dis-ing all staff and deciding not to print the ıary issue.

itecture, in the view of industry rvers, acquired P/A in part to offset ır anticipated circulation losses due to mpending expiration of its publishing ement with the AIA, in part to eliminate npetitor.

which was initially called *Pencil Points*, just completed its 75th year. Under ır John Morris Dixon, the magazine had a number of prizes, including a National azine Award in 1979. Hard hit like other ications during the last recession, it onded in 1994 with a much-debated new ıat emphasizing issue-based articles and stigative pieces.

closing reportedly has disturbed some of participants in this year's *P/A* awards. winner said: "One of my life goals was to ı *P/A* award. Finally I've done it, but it's the tree falling in the forest: does it make ınd if nobody hears it?"

move leaves ARCHITECTURAL RECORD e only other national professional maga- published primarily for architects. Last ber, The McGraw-Hill Companies and AIA announced they would pursue a -term alliance under which, among other isions, RECORD was designated the AIA ıbers' magazine, replacing *Architecture* January 1997. RECORD will continue to e its substantial non-AIA readership.
id Cohn



A facsimile of the proposed January 1996 P/A cover: detail drawing of a Caracas house by Monica Ponce de Leon and Nader Tehrani.

Issue That Never Was

Architectural Icons For Sale

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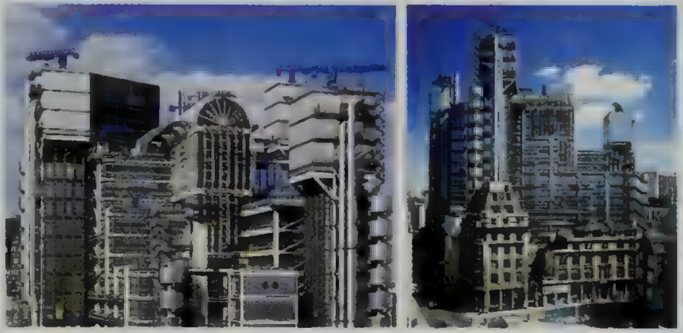
Trade towers, Asking price: ?



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Lloyd's of London: It's yours for $200 million.

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The American Center cost some $40 million in 1994.

Looking for your own architectural monument? High-tech, high-security, boldly sculptural? London, New York City, Paris? A startling selection of modern masterpieces may soon be available in several world capitals—for the right price.

In London, Lloyd's hopes to sell Richard Rogers's high-tech, $180-million extravaganza [RECORD, November 1986, pages 104-117]. Once condemned as a blight on the cityscape by the Prince of Wales camp, the gleaming network of ducts and service towers already seemed a nostalgic ode to the wonders of the machine when it was opened by Queen Elizabeth in 1986. Controversial architecture, however, is not the motive for the sale: funds are needed for a vast restructuring plan. But the company is unwilling to completely abandon its headquarters; in fact, Lloyd's doesn't plan to move out. Instead, the financially beleaguered company hopes to lease back several floors in the building if it is able to complete the sale. Maintenance was performed on the building last year, including removal of corrosion on exterior piping, raising the asking price to a rumored $200 million.

In New York City, a commission within the Port Authority of New York and New Jersey (owners of the World Trade Center's twin towers) recently hired a consultant to, according to sources, "maximize the buildings' assets." The commission is said to be studying how best to privatize the towers. One option being explored is the sale of both buildings. With 10 million square feet of leasable space, the aluminum-clad structures (once dubbed Nelson and David after the Rockefeller brothers who sponsored them) cost $800 million when they were dedicated in 1973. Since then they have been upgraded against potential terrorist attack. Current value: unknown.

In Paris, the American Center is considering selling its headquarters—a Frank Gehry gem [RECORD, May 1994, pages 86-93]—to bolster faltering finances and a meager endowment (a final decision is due shortly). While creative money-management allowed the $40-million building to be built in the first place (the Center sold its prominent right bank site to pay for the new project on the left bank), a lack of programming funds has left the ambitious mission of the Center largely unrealized. Located in a rehabilitated neighborhood once home to the city's wine warehouses, cultural institutions need only apply since zoning has designated the building a cultural landmark. *Nicolai Ouroussoff*

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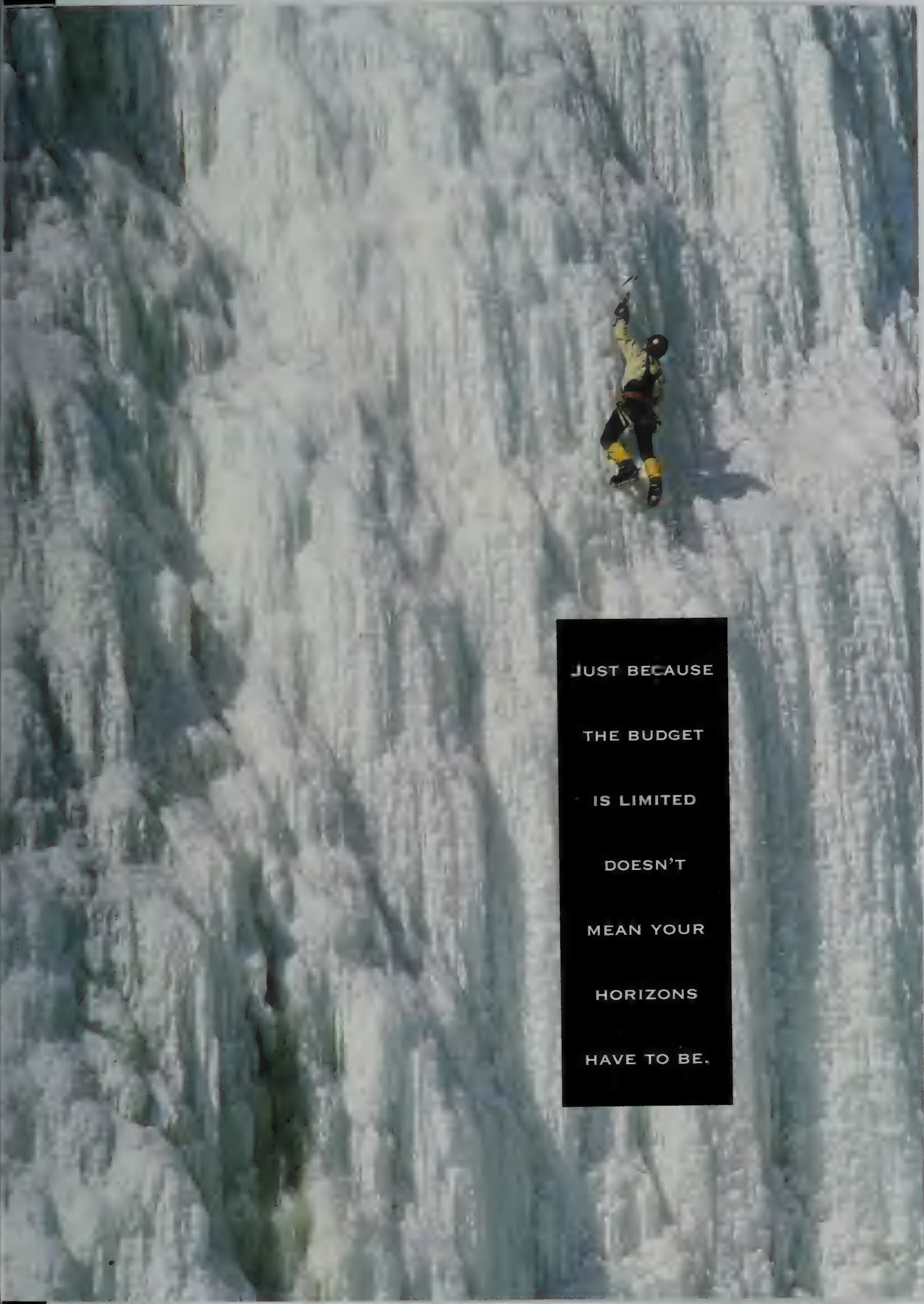
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rave New World

ity Of Bits: Space, Place, and the fobahn, *by William Mitchell. Cambridge: IIT Press, 1995; 216 pages; $20.*

eviewed by Hanna Liebman

e careful what you wish for; it might come rue. William Mitchell's *City Of Bits* heralds new kind of soft universe, replete with adgets, gizmos, and electronic widgets alore. Aptly described as a "windshield urvey along the Infobahn," this book delivrs next year's model in a clear, crisp style.

Mitchell, who is Dean of the School of Archiecture and Planning at the Massachusetts nstitute of Technology, is at his best when he lescribes his own experiences, giving a uman face to the technological. For instance, e recounts an incident when teaching a class n Singapore via videoconferencing. Adjustng his tie in a camera lens, he remembers he s "telepresent" and what he is doing is being rojected to the students. Later, in a charmng and evocative essay that ties the whole ook together, Mitchell lets us in on his fornative impressions of cities, describing his xodus from a rural Australian childhood to Melbourne in 1956 for the Olympics.

But if you've kept up with the newspapers in the last few years, skip the printed text and go right to the book's Internet site to surf the mpressive array of links. Or just comb the footnotes to cull a reading list that goes deeper than Mitchell's broadly aimed work.

The new world, Mitchell explains, will be composed of "mutant architectural forms that emerge from the telecommunications-induced fragmentation and recombination of traditional architectural types, and of new, soft cities that parallel, complement, and sometimes compete with our existing urban concentrations of brick, concrete, and steel."

The current industrial complex will be displaced by close-knit local communities, where workers won't have to commute, thereby gaining the luxury of connecting with neighbors and family. In turn, these communities will be jacked into the outside world through electronic networks, delivered everywhere and anywhere. Computers will be portable and wearable; you'll "have software in your underwear," he prophesies. Buildings themselves will be intelligent.

Mitchell outlines how structures have "evolved" from simple skeletons with skins to physiologically complex beings. When computers are finally seamlessly integrated into buildings, creating the nervous system to activate the brainless scarecrows of today, God presumably can rest, in Mitchell's model.

As Mitchell sees it, in a few scant years we will all be jiggling with even more technology than we are now. In fact, it will be hard to escape technology's reach. Even at museums, we will start off looking at electronic renditions of the artwork, after which a machine will spit out an itinerary showing us where the pieces we wish to see are kept.

As if that isn't bad enough, we won't get to glimpse Joan Rivers or Alec Baldwin in Bloomingdale's anymore, since they will be arranging online personal shopping appointments instead of showing up in the flesh.

I am as digital as the next person, but Mitchell's gee-whizardry with respect to new technology is hard to take. Mitchell's prose pricks up at the slightest mention of a futuristic device. A weakness of his analysis is that he hasn't addressed how far along we are in this technological journey. At times, his vignettes of impending "killer" applications come across as extended AT&T ads. And when he talks about the future of shopping, he sounds like a copywriter for a public-relations agency.

With respect to the loss of traditional building forms, Mitchell is less sanguine, even sentimental. He lovingly builds pictures of Old-World emblems, from the Alte Pinakothek to Milan's La Scala Teatro to the New York Stock Exchange. New architecture will be increasingly "recombinant," melding the concept of real presence with the need for presence in the virtual world.

He bemoans the loss of these age-old institutions, concluding that in the coming world, there will be "nothing left to put a grand facade on." In the new order, rather, "uses of built space are no longer permanently assigned and depend from minute to minute on software and the fleeting flow of bits."

Artist Krzysztof Wodiczko's "alien staff" connects the physically homeless to cyberspace and the public realm (below).

It's a shame, though, after all his hand-wringing about how the old-form structures are going the way of the flying buttress, that Mitchell doesn't explain how changes in engineering, materials, and technology are making the old buildings obsolete, nor how he'd like to see them recast.

Oddly enough, the most disturbing thing about Mitchell's tale is that, even as he assures the reader that the new won't entirely supplant the old, as television hasn't rendered live theater entirely obsolete, his book is alternatively an anti-book and a lovely book. The design of the book itself, with reverse-type bands for chapter demarcations, uncluttered architectural drawings, and generous white space, is so clean and sophisticated that it makes you appreciate the beauty of books. But the fact that the notes and links are deeper than the main text is a reminder of what else is out there and an invitation to break out of the book and into the realm of cyberspace. ■

Hanna Liebman was an editor at CD-ROM World *and has written about new media for* MediaWeek *and* Marketing Computers.

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ollaborators in Life and Art

While Charles kept himself in the public eye, showing up, for example, in publicity shots of the Eameses' furniture (below), Ray's contribution behind the scenes was critical to the success of their designs (bottom).

harles and Ray Eames: Designers of the wentieth Century, *by Pat Kirkham.*
ambridge: MIT Press, 1995, 400 pages, $55

eviewed by Katherine Kai-sun Chia

n the last few years, the resurgence in popularity of Eames furniture and Eames rchitecture has brought renewed attention o the two designers themselves.

lmost everyone who grew up in the 1950s nd 60s experienced an Eames design at one oint or another. Eames furniture was everywhere—in schools, airports, and offices cross the country. Yet what were once taken or granted as simple and affordable stackable plywood and (later) plastic chairs are ow being coveted as cult objects of classic Modern design. The innovative LCW Lounge Chair Wood), which retailed for 17.85 in 1947, now fetches a hefty $1,000 in rendy furniture boutiques.

Charles and Ray Eames considered themselves Modernists who used new materials and industrial processes to create everyday goods at affordable prices. They were prolific, completing and cross-breeding projects in rchitecture, furniture, exhibit design, and filmmaking. Yet little of their process has been recorded, since they usually developed the work orally with few drawings or notes. Charles was particularly adamant about not publishing a "tombstone" monograph while either partner was alive, because he feared it would imply their work was "done."

The few books on their work currently in print focus primarily on the modular house they built for themselves in 1949 in Pacific Palisades, Calif., as part of the Case Study House program sponsored by *Arts & Architecture* magazine. An important exception, *Eames Design*, by John and Marilyn Neuhart and Ray Eames (Abrams, 1989), catalogs every project attempted or completed by the Eames Office, yet it devotes little attention to the lives and methods of the two designers.

Pat Kirkham's new book is a perfect complement to the Abrams tome, and the two volumes together form the "must-have" compendium for every Eames aficionado. Kirkham's book bridges the gap between process and persona—analyzing the Eameses' relationship as designers and partners in life. She discusses their varied projects by category and then weaves in the historical context in which they worked and the cultural communities (from Cranbrook to the National Institute of Design in Ahmedabad, India) that shaped their thinking.

Using interviews with Ray Eames, clients, and associates, plus previously unpublished materials from the Eames archive, Kirkham details the evolution of projects often overlooked by historians, especially in the area of film, multi-media, and toy design. This isn't a coffee table monograph but a rich piece of academic research; 200 black-and-white images (only 10 in color) dovetail with the text, many showing Charles and Ray at work or posed with their designs.

Charles and Ray Eames were both accomplished in their own professions prior to meeting at Cranbrook in 1940. From 1933 to 1938, Charles promoted the "Colonial Williamsburg" and British Domestic Revival styles. Hints of Scandinavian Modernism influenced the facades of his residential commissions late in this period. But only with the start of his one-year fellowship with Eliel Saarinen at Cranbrook, his friendship with Eliel's son Eero, and his life-long collaboration with Ray, did his thinking about architecture and design change dramatically.

Ray Eames, born Bernice Alexandra Kaiser, studied as a painter with avant-garde German émigré Hans Hofmann at the Art Students League in New York City in the early 1930s. Hofmann's "push and pull" abstract expressionist teachings later influenced Ray's numerous cover designs for *Arts & Architecture* and her plywood-furniture designs. When Ray entered Cranbrook she was more avant-garde than Charles, a fact "overlooked by most writers," says Kirkham.

Kirkham argues that Charles relied heavily on Ray's strengths—her sense of structure, color, form, and her "remarkable ability to arrange groups of objects and 'decorate' interiors, be they domestic or exhibition spaces." These were seen by many as lesser abilities than Charles's technical and practical skills. Yet these qualities were central to their work, providing the balance between the rational and the intuitive that has made Eames design so appealing to this day.

Kirkham confronts the gender bias in histories of this period, which commonly slight women who worked in partnerships with men. This was particularly true in the case of the Eameses; indeed, Ray's contribution was not recognized publicly until the exhibition "Connections: The work of Charles and Ray Eames" opened in 1976. Throughout the book, Kirkham re-evaluates and repositions Ray within the context of the collaboration, providing substantial evidence that Ray's contributions equaled those of Charles.

By reassessing Ray's involvement in the work, this book moves to the forefront of research on the Eameses. In addition, Kirkham's thorough discussion of the Eameses' lesser known contributions to design and film and the personal working dynamic between the two partners provides a well-rounded perspective of one of the great design partnerships of the 20th century. ■

Katherine Kai-sun Chia is an architect and principal of Desai/Chia Studio in New York.

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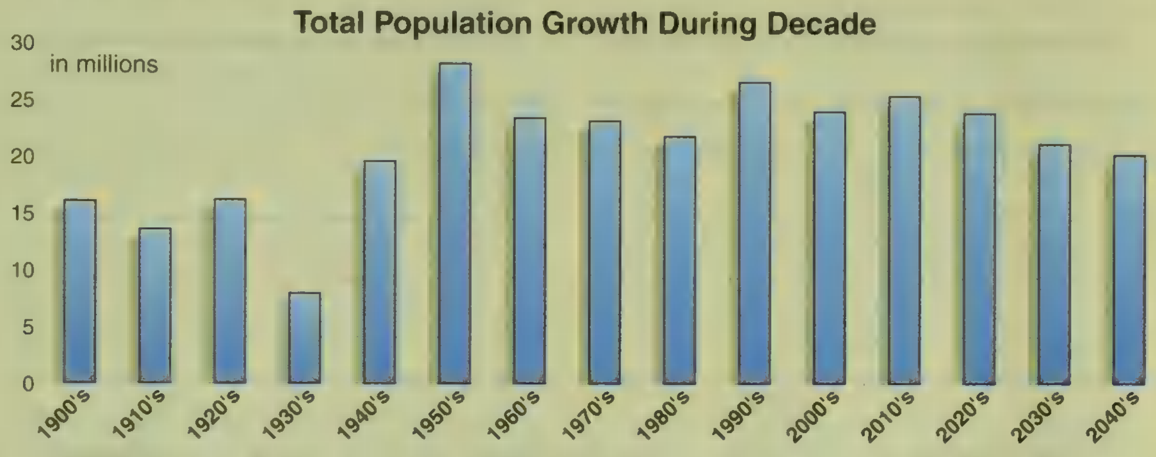
[illegible] Best Rating: A (Excellent) [illegible] 1995 DPIC Companies, Inc. •Photo courtesy of Gruhn Guitars Inc

ıdicators

pulation boomlet near its end

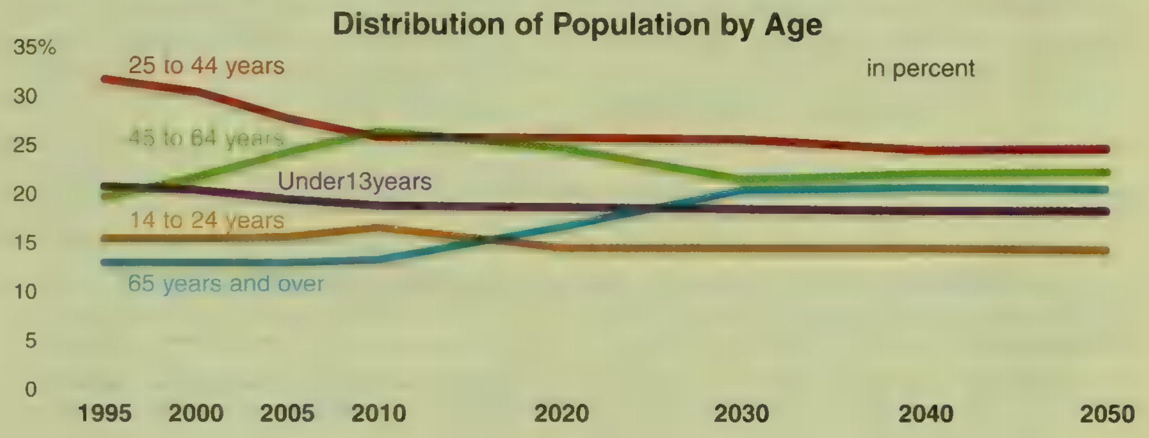
ɔad demographic trends often manifest
mselves in surprisingly short cycles. The
ısistent strength in school building and
gle-family housing over the last few years,
example, may wane once the millennium
ns as baby-boomers move beyond child-
ıring years. The census bureau predicts
ıt total population growth will gradually
le, and the percent change in population
l shrink considerably. Its middle series
e basis for these figures) shows 392 million
ıericans in 2050. ■



Total Population Growth During Decade

tting older

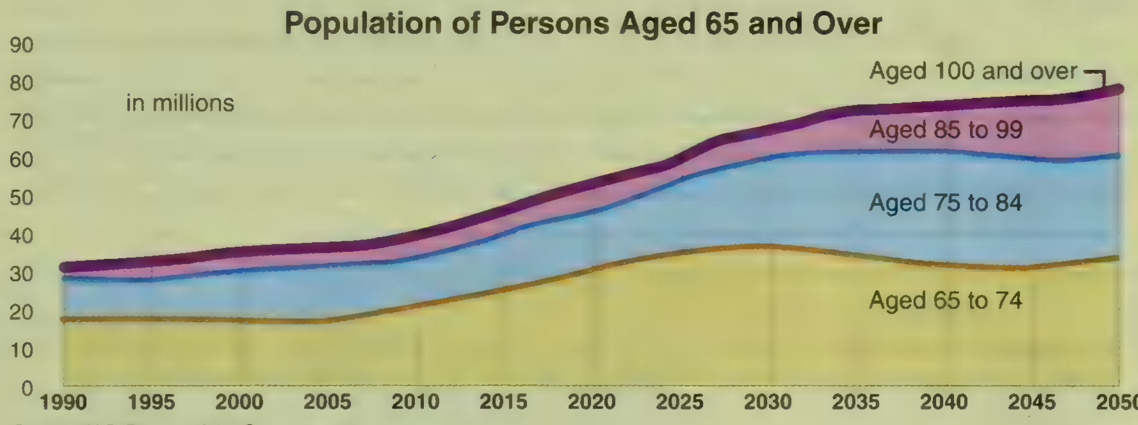
me have predicted that the population's
ady aging will create a huge burden on
ınger workers. The Census does predict
ıt median age will peak at 39.1 in 2035
om 32.8 in 1990). And the dependency ratio
hich includes children below 17 and adults
ler than 65) per 100 working-age people
l go from 62 (1990) to 78.9 in 2040. But the
io was actually higher in the 60's when
omers were infants. The relative wealth of
ɔse working will determine whether there
ll be funds to build what's needed. ■



Distribution of Population by Age

e growth of the very old

percentage terms, those more than 85
ars old will quadruple by 2050. In real
rms, the very old will still be less than five
rcent of the population. There should be
eadily increasing work for this population,
t just in health-care and residential facili-
s, but in adapting non-specialized public
commodations to the needs of those who
ll be more active than their counterparts of
e same age today. The 100-plus-year club
ll grow from tiny numbers to 0.3 percent of
ɔpulation. ■



Population of Persons Aged 65 and Over

Source: U.S. Bureau of the Census

Charts by Leanor Glynn

he Profession This Month

on-Traditional Services 32
door Air Quality 36
oofing 42
ftware Reviews 49
w Products 52

Short Takes

• **Business supports the arts:** According to the Business Committee for the Arts, a non-profit organization, arts organizations received an estimated $875 million in company contributions in 1994, up from the $518 million recorded in a 1991 survey. Spending shifted to arts education and performing-arts centers over museums and conventional theaters.

• **Building serviceability rating:** The ASTM has published 17 standards on functionality and building performance, ranging from Support for Office Work to Amenities to Attract and Retain Staff and Special Facilities and Technologies. ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, 610/832-9500, 610/832-9635 (fax).

• **Case studies in sustainability:** Victoria Schomer, who has published the *Interior Concerns* newsletter, has begun the *Green Buildings Case Studies Review*, showcasing built projects. Interior Concerns Environmental Resources, P.O. Box 2386, Mill Valley, CA 94942, 415/389-8049, 415/388-8322 (fax). ■

Redesigning the Architect

By Robert Spencer Barnett

"Business! What a dilemma! If you try to please people, you become corrupt and sell yourself; if you do what you feel you must do, you cause displeasure and create a void around yourself." This lament, attributed to Le Corbusier, may still elicit sympathy from many architects today. If anything, business imperatives are driving architects more than ever, causing firm leaders to confront the fundamental values they share. Architects, whatever their reasons for originally entering the field, see themselves driven to redefine their practices if for no other reason than to move income above the subsistence level. Sadly, many see fee levels for traditional service-delivery models as inadequate both to properly serve clients and to build personal net worth.

Most architects enter the field as a "way of life"—a *practice*-centered business, as Weld Coxe, founder of the management-consulting firm the Coxe Group, puts it. Since, as Coxe admonishes architects, "your clients care only about your practice, not your business," the trick today is to define a profit-making means of practice that recognizes the age-old values of architecture while serving clients' evolving needs. In so doing, architects are redefining what the field is. But stretching the definition of architecture requires a rethinking of its core values. A look at recent history suggests how far architects have already come.

Robert Spencer Barnett is assistant director of the office of physical planning at Princeton University. He was formerly director of design technology at The Hillier Group.

August Kommendant, the structural engineer who collaborated most closely with Louis I. Kahn, observed that Kahn "advised students that an architect's first task after receiving a commission and the program accompanying it is to change the program, not to try to satisfy it, but to put it into the realm of architecture." Similarly, some architects still subscribe to the image of Ayn Rand's fictional architect Howard Roarke, who espoused the belief that "no great work is ever done collectively, by a majority decision. Every creative job is achieved under the guidance of a single individual thought."

The architect as problem-solver

While the architect with a singular artistic vision has hardly disappeared, the way the architect relates to the client has unquestionably changed since the days of Kahn and Roarke. Charles Gwathmey, for example, believes that architect and client are "mutually obligated to the intellectual pursuit of discovery" when undertaking a project. He observes that, for a client, lacking the assurances of a construction-industry *Consumer Reports*, hiring an architect is a "leap of faith." Dana Cuff, associate professor at UCLA's Department of Architecture and Planning and a researcher on architectural practice, sees the architect-visionary as ob lete: "Architecture is not a venue for prima donnas." She characterizes the design tean as a jazz ensemble as opposed to as an orchestra with a conductor.

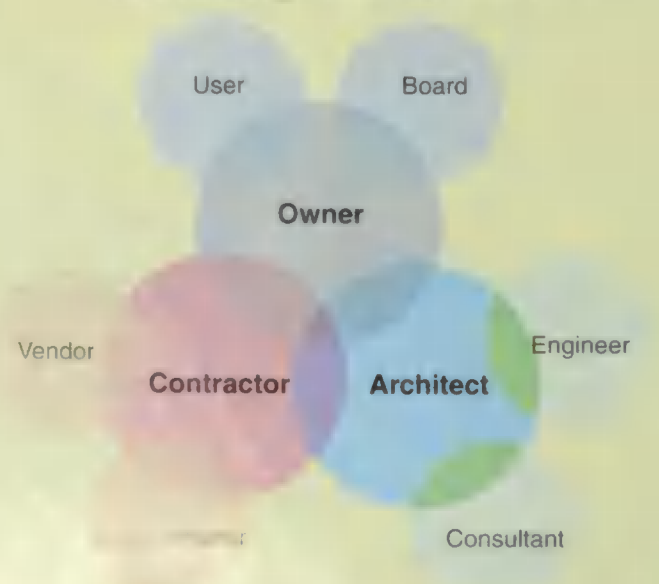
Indeed, architects today often see themsel as problem-solvers, having unique skills in synthesizing complex requirements in thre dimensional form. Daniel Casey, who was a long-time associate in Edward Larrabee Barnes' office, observes that architects "share a culture that goes back to day one architectural school." Architecture's comm knowledge and language makes it "the onl profession that considers all aspects of the relationship between humankind and the built environment." He describes the desig process as the "choreography of the physic social, economic and artistic" aspects of thi relationship. While he acknowledges the co tribution of related professions to this process, at some point the designer must " to the mountain" and emerge with a conce

The client as "customer"

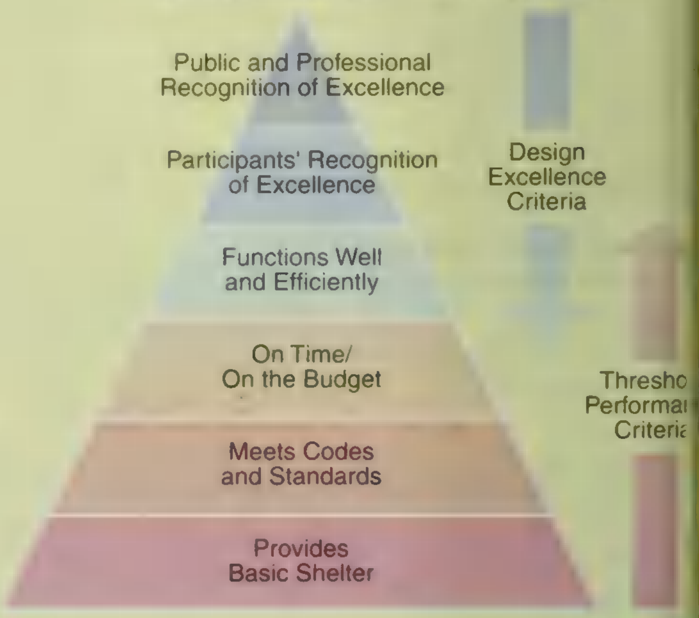
As American business in the 1970s and 198 became more influenced by the customer o entation theorized by statistician and business consultant W. Edwards Deming a others, architecture has had to change to

The composition of the design-construct team is moving from the traditional hierarchical to an intersecting model [illegible] Franklin, former [illegible] of the AIA, adopted the Maslow [illegible]

Intersecting Decision Model



Architects' "Maslow" Pyramid


Public and Professional Recognition of Excellence
Participants' Recognition of Excellence
Functions Well and Efficiently
On Time/ On the Budget
Meets Codes and Standards
Provides Basic Shelter
Design Excellence Criteria
Thresho Performa Criteri

merous experts—even the AIA—see much of architecture's future outside the boundaries of traditional practice. But stretching these ındaries calls for a rethinking of architecture's core skills.

) pace. The Total Quality Management
ement focused efforts to deliver products
services more efficiently with fewer
rs. From that came business best-sellers
Richard C. Whitely's *The Customer*
ven Company. As clients have embraced
I and gotten used to a strong client-
ice orientation, surveys show they
eive architects as making too little effort
nderstand their needs. They appear arro-
t, uninterested in client aspirations, or
killed at the essential art of listening.

tegic thinker; process manager

akers at AIA's Summit on Expanding
hitectural Services, held last September
ashville, saw market forces challenging
current model of the architect as synthe-
r and problem-solver. These include:
ie encroachment of related professions
ı as interior design, landscape architec-
, and program management.
ie increasing number of architects choos-
"alternative" careers in fields such as
lities management, construction manage-
ıt, and community advocacy.
ie chipping away of architects' traditional
, not just by allied professionals, but by
sultants lacking architectural training and
nsing, such as real-estate professionals,
untants, and management consultants.

at's driving these changes? First, the
ıand for traditional services relative to the number of architects keeps shrinking [RECORD, October 1995 pages 42-45]. Also, some clients, seeing the value, cost, and efficiency potentials in their real-estate holdings, are managing them much more aggressively—and using architects to do it. Graduate and licensed architects working outside traditional private practice now account for approximately 24 percent of the profession, up from 16 percent in 1960. Richard Hobbs, vice president for professional practice at AIA, predicts that within 10 years the percentage will increase to 50 percent.

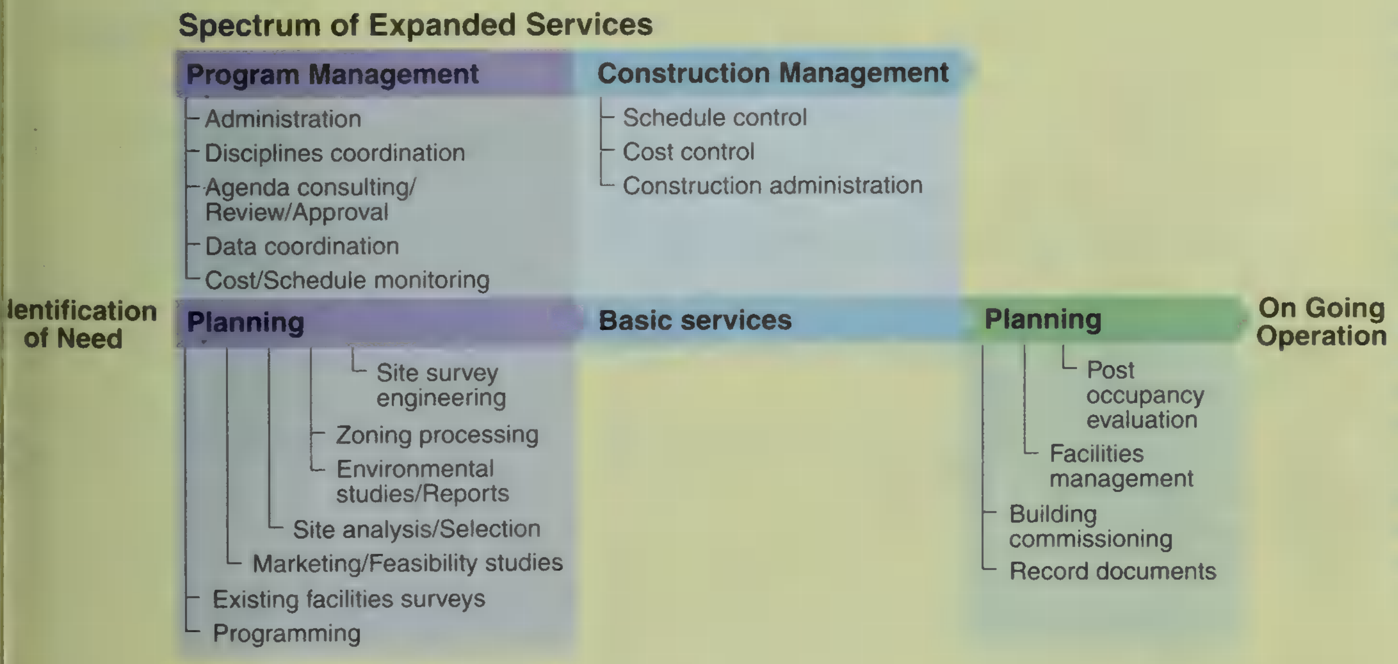
In such an environment, yet another concept of practice is evolving, the strategically focused or process-oriented architect. Such an architect looks beyond the conventional definition of architects' services to capture those services clients desire and that the architect is qualified—or can become qualified—to provide. They include such predesign services as strategic business planning (a prelude to strategic *facilities* planning—see RECORD, September 1995, pages 32-35, 62-63) and program management, ongoing services including construction management, and such post-construction services as building-systems commissioning and facilities management.

The AIA's Practice and Prosperity program under Richard Hobbs and George Chong, California Council AIA's president elect, is developing the tools and support to enable architects to provide these non-traditional services. Hobbs believes that typical basic services will soon account for only 33 percent of the profession's work while predesign and post-construction services (see diagram below) will account for an additional 33 percent each. According to Louis Marines, the president of the Advanced Management Institute (AMI) and a former AIA executive, the profession is currently "underleveraged." He believes that architects can build on skills they have to deliver non-traditional services and that other skills can be acquired through alliances, continuing education, and even degree programs.

Redesigning the architect

If architects want to offer non-traditional services or restructure their businesses to capture these new markets, however, they must be able to assure their clients that they have the skills needed. Architects already possess analytical and organizational skills that are well suited to the needs of today's "corporate developers," according to Peter Miscovich, president of Interior Space International (ISI), and a leader in the expansion of architects' traditional role.

Like other firms that formerly offered primarily corporate interior-design services, his firm has already made up its mind about how it will serve clients: ISI "seeks to support the



AIA's Richard Hobbs and California Council's George Chong see services outside the range of basic services as increasingly important (left). To capture this work, architects no longer have to operate within traditional firms, but can realize clients' goals through strategic management of increasingly valuable real-estate assets.

long-term business interests of their clients, not just do hot design." If ISI had stayed within a traditional design-firm mold, Miscovich says it wouldn't be chosen by today's clients—who are increasingly corporate real-estate asset managers who advocate alternative-office strategies. Facilities for such clients don't come out of a program, but are best designed, according to Miscovich, pursuant to the client's broad and fundamental vision of work process—a vision ISI helps clients develop. Architectural firms with the expertise to support the restructuring of work—not just the physical form of the work space—will surely find a receptive audience among such clients and their asset managers, Miscovich says.

However, he believes that architects must overcome a general lack of understanding of business strategy if they hope to gain the full confidence of corporate clients. Citing his own evolution from graduate civil engineer to architectural project manager to workplace strategist, he stresses the need for individual retraining and continuing education. Fortunately, many such opportunities exist for those motivated to expand their skills. The International Development Research Council (IDRC), the National Association of Corporate Real Estate Executives (NACOR), and the International Facilities Managers Association (IFMA) all offer courses and conferences.

Beyond the master-builder model

Likewise, architects can learn to be construction managers. After all, CM was first promoted over 25 years ago by an architect, Charles Thomsen, then a partner at Caudill Rowlett Scott. Contractors soon claimed that service and today it is no coincidence that partnering is being promoted by construction managers. Nevertheless, the proliferation of project-delivery methods has eroded the boundaries of traditional practice [RECORD, March 1995 pages 28-33]. The AIA California Council has identified seven alternatives to the standard design-bid-build method. The Council will soon publish its "Handbook on Project Delivery" to assist owners in "choosing the right method for the right reason," according to president-elect Chong.

While redefining the architect's traditional relationship with the owner and contractor, these alternatives also create new opportunities for architects. Following such pioneers as CRS and Heery & Heery, many architectural firms are venturing into construction management and design/build, and others into real-estate development.

Although many architects regret the passing of the architect as "master builder," the master-builder idea itself is becoming obsolete when alternative-delivery scenarios are used. The architect can maintain an authoritative voice for design by understanding the fundamentally different relationships that apply among team members in such projec

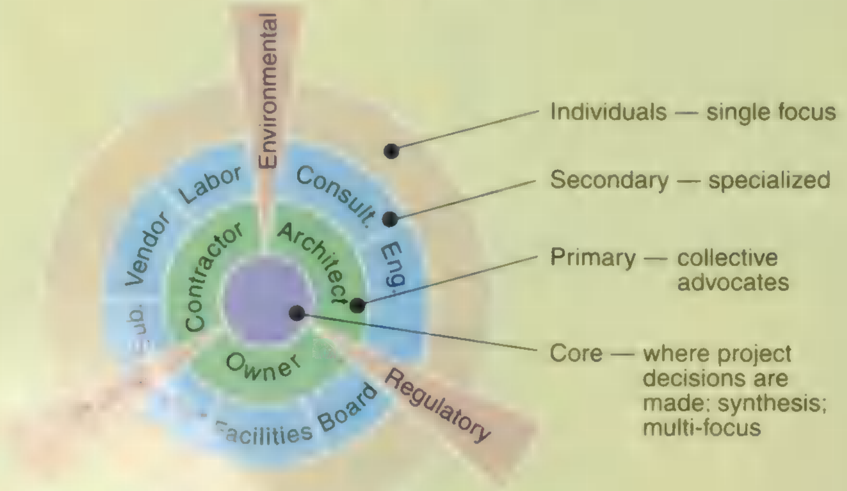
•*Hierarchical model:* In the traditional design-bid-build model, the owner retains authority to direct the architect and the cor tractor. The architect and contractor direct their subcontractors and consultants and maintain an arms-length distance from eacl other. Perhaps the most controversial element of this arrangement is the architec as agent for the owner in the interpretation of documents that the architect prepared. Contractors frequently argue that there is inherent conflict here (the architect has the ability to absolve himself of errors), and th argue that architects simply don't have the skill and training to monitor today's ever-more-complex construction projects.

•*Intersecting model:* A construction-manag ment project moves the major participants into closer proximity to one another and re ognizes overlapping areas of expertise and authority (see diagram, page **014a**). The zones where only two participants intersect owner and architect for example—perpetu the separate responsibilities of the hierarch cal model. However, the model does create zone where all three interests can resolve conflicts.

•*Convergent model:* Delivery methods like design/build or partnering are more team-c

Design/build and partnering represent a form of team-member interaction that requires members to surrender some traditional authority for the good of the project (team rules). The hub of the diagram [illegible]

Convergent Decision Model


Environmental
Labor
Consult.
Eng.
Vendor
Contractor
Architect
Sub.
Owner
Facilities Board
Regulatory
Individuals — single focus
Secondary — specialized
Primary — collective advocates
Core — where project decisions are made: synthesis; multi-focus

Identity and Values

As firms evolve to serve clients i new ways, the fundamental identity of the architect changes and new kinds of values and skills are needed.

d, and the convergent model suggests
way participants interact (opposite). The
rmost ring comprises individuals with
ng vested interests and a narrow focus—
or union's business agent, the owner's
t supervisor, or the architect's code con-
ant. While the spheres of authority and
ertise of owner, architect, and contractor
recognized, the project architect, for
nple, is beholden to the team and the
ome of the project more than to the nar-
ly focused and vested interests of people
reports to. Every participating entity
s up some of its traditional authority to
ize the best interests of the project.

en MBAs practice architecture

not only the traditional boundaries of
itectural services that are shifting. A
lar redefinition process is at work in
d professions. This cross-pollinization
ates opportunities for architects: they
e joined *Fortune* 500 companies. But the
erse is happening, too. A CEO of a large
itectural firm recruiting staff told Robert
man (whose *Architectural Practice: A*
ical View is now a classic), " . . . we're
ng MBAs, not architectural graduates.
are servicing our corporate clients' needs
strategic consulting."

l non-design professionals are beginning
nnex some architectural services to their
. Accounting firms see a natural evolution
from accounting to management consulting to asset management to facilities planning. One "big six" firm, KPMG Peat Marwick, provides physical-planning services to Denver International Airport. For commercial clients, the firm usually does market surveys, which are analogous to programming. According to Jerry W. Turner, Jr., Peat Marwick's director of Real Estate Services, the firm's goal is to "optimize return to the investor," which often requires adjusting both the architect's and the developer's aspirations to the reality of the marketplace.

From this, it's not a big jump to a form of professional-service entity that combines traditional architectural and planning services with management-consulting and accounting services.

Gap between education and practice

There are many who argue, however, that architects' education simply does not provide either the management skills nor the communications and synthesizing skills needed by today's working methods. A study of the gap between architectural education and practice by the Carnegie Foundation for the Advancement of Teaching, led by the late Ernest Boyer, is nearing completion. We don't yet know what it will mean for architecture; a similar Boyer study revolutionized the medical profession a generation ago. In 1991, Fred Stitt founded the San Francisco Institute of Architecture, which offers a three-year Master of Architecture degree (NAAB accreditation is pending). He observes that "the most influential educators at the most influential schools have attempted to diminish if not exclude construction technology and business management from their curricula."

Louis Marines's Advanced Management Institute, founded in 1989, "provides working architects and engineers with post-graduate education in management, leadership, and business skills,"says Marines. The Institute offers core courses in practice management, project management, marketing, financial management, and leadership development as well, as more specialized electives and "intensives." These courses are offered on weekends, much like business-school programs for mid-career professionals. The institute also offers in-firm education.

Peter Piven, president of the Coxe Group, sees professional schools, licensing authorities, and professional societies, as a "three-legged stool" which supports the platform from which architecture operates. He believes the ACSA, the NCARB and the AIA must adapt to changing roles, relationships, and services in the profession.

The architect's fundamental identity

Since most people choose the field of archi

Continued on page 110

---

aditional

entity: Architecture as creation of the sin-
ar artist.
lues: Individual vision and creativity; ori-
ed to transformation of needs into a
sical form in service to culture, communi-
and society.
ill set: Artistic vision and means
awing, modelmaking) to communicate it.
owledge of construction detailing and
nology necessary for realization. Ability
ransform program needs into architectur-
anguage.

Service-Oriented

- *Identity:* Create unifying concepts that respond to diverse, complex criteria and abstract or unarticulated needs.
- *Values:* Client-driven; humanistic, problem-solving orientation.
- *Skill set:* Communication and reasoning skills to articulate and synthesize needs; design skills oriented to problem response; good management skills for handling complexities of a programming, design, and construction process that involves many players.

Strategic/Process Oriented

- *Identity:* Services molded to strategically respond to customers' broad goals; an umpire, a coach, a diplomat.
- *Values:* Offer those services customers seek; not afraid to stretch boundaries in terms of services offered; big-picture and long-term view just as important as immediate project, program, or process.
- *Skill set:* Ability to conceptualize and design with a business-oriented, strategic approach. Powerful management and people skills; ability to conceptually shift gears to take on diverse tasks ranging from broad business strategy and conventional design and documentation to project management, commissioning, and facilities management.

Some Old and Some New Sick-Building Culprits

© Courtesy Ductdusters/J. May Home Inspections

If this doesn't scare you: *Dust on a fan motor is a perfect growth medium for IAQ-causing microbes. The evident rust indicates the fan has been wet.*

By Nadav Malin

Sick-Building Syndrome (SBS) has become perhaps the most dreaded "hot-button" issue facing architects, mechanical-systems engineers, and commercial-building owners. One reason for the dread is the mystery that often surrounds indoor air-quality (IAQ) problems. Increasing attention since the late 1980s has gradually uncovered a better understanding of the many factors that can contribute to the health problems of building occupants, but there's still no sure cure, no magic bullet, nor even consistent culprits. Still, researchers and forensic experts are increasingly coming to consensus on some of the knottiest IAQ issues, and are tentatively resolving some of the mysteries.

Since the first cases of building-related health symptoms were investigated in the late 1970s, researchers have attempted to correlate occupant complaints with measurable levels of known toxins or irritants. Indeed, the presence of volatile organic compounds (VOC's) such as those in solvent-based paints; other toxins off-gassed by building products; poorly designed ventilation; and lack of fresh air continue to figure in Sick-Building Syndrome.

In many cases, though, efforts to identify sources of indoor-air problems have come up short. Recent research suggests that different pollutant sources may be at work, including previously underemphasized microbial contamination, uncontrolled movement of air (and contaminants) within and through the building envelope, and newly documented chemical interactions among contaminants.

What's living in the ductwork

Microbial contamination, which many kinds of chemical screening fail to pick up, is now seen to play a significant role in many sick-building cases, according to architect and IAQ consultant Hal Levin of Santa Cruz, Calif. Thus, control of biologicals is gaining increasing attention in the design of mechanical systems (and whole buildings), and in the treatment of IAQ problems. Microbial contamination is especially prevalent in humid climates, where condensation within an hvac system can nurture microbial growth. Another factor is unintended air movement within and through the building envelope. This air movement can both undermine ventilation effectiveness and introduce a wide range of added contaminants to the buildin

"Pressure relationships in the interstitial areas of building assemblies are the most underrated source of IAQ problems," says building scientist Joseph Lstiburek, of Che nut Hill, Mass. Stack-effect pressures are frequently overlooked, according to Lstiburek. (The stack effect is particularly pronounced in tall buildings, where differen tials in prevailing winds and temperature ca create significant volumes of usually upwar air movements.) He says this may cause the ventilation system to redistribute toxins within a building rather than introducing fresh air. (The deviation of actual condition from those designed can be profound, as Lstiburek found in a project he analyzed, shown on the following pages.)

Lstiburek cites another area in which poorl understood air-pressure relationships can cause problems: air drawn from roof assemblies (which, during the day can reach 200F into negatively pressured dropped-ceiling a plenums. A range of toxins emitted by the heated roofing membranes and insulation ca infiltrate the occupied space. The widesprea use of dropped-ceiling air plenums is itself a questionable practice, according to Lstiburek, because any contaminants in the ceilin space—or in any area connected to that space—will be recirculated to building occupants. Poor air-sealing around the plenum's perimeter is common and problematic.

A "chemical soup" of irritants

Researchers are also beginning to identify the *interactions* among contaminants in the indoor environment as increasingly important. Referring to what he calls the "chemic soup" of VOCs common in buildings today, Lstiburek says, "People have suspected inte actions for a long time." They may cause symptoms that cannot be attributed to each chemical individually. New research by Charles Weschler of Bellcore Communications, in Redbank, N. J. (which funds IAQ research related to electronic components), has shown that 4-PC, a chemical released from carpets backed with styrene butadien (SB) latex, can react with ozone to create potentially irritating aldehydes. SB latex-backed carpets are ubiquitous in office

Nadav Malin [illegible] of *[illegible]*, Vt.-based *Environmental Building News*.

sources of some buildings' indoor air-quality problems continue
ffle analysts. Other maladies are increasingly well understood,
cially the growing concern over mold in mechanical systems.

onments, and 4-PC has long been
ed as a potential irritant because it has a
table odor even in minute concentra-
Health studies of 4-PC have not shown
e particularly toxic or irritating at mea-
levels, however.

ew findings may explain why office
ers often experience health problems
the installation of new carpet. Also at
re hotel-room occupants and mainte-
staff. In the lodging industry, carpets
placed frequently (each time releasing
4-PC) and ozone-generating devices are
times used to mask the smell of mold.
e coming years we are going to discov-
t this type of interaction is a very
rtant process that has confounded much
past research on office environments,"
Levin.

's a dumb number," Lstiburek says of the 20
n/p in the new ASHRAE standard, adding
t providing 20 cfm/p in hot, humid
mates is a recipe for disaster.

versus benign VOCs

her development in the analysis of sick
ings concerns the separation of VOCs
ategories based on their likely source.
common knowledge that not all VOCs
qually hazardous—some are known to
ghly toxic, while others, including many
rally occurring chemicals, are benign.
ecause total VOC levels are much easier
easure than individual compounds, many
es have attempted to use total-VOC
urements to identify problems. They
had little success.

oan Daisey and others in the Indoor
ronment Program at Lawrence Berke-
aboratory (LBL) analyzed past data to
ify "clusters" of VOCs that are common-
nerated from a single source, such as
r-vehicle emissions or water-based
s. Then, rather than trying to measure
of the VOCs in every case, they used
in indicator compounds to determine the
presence of a given cluster. The researchers then mapped occupant health symptoms from a questionnaire against the presence of these indicator compounds, and came up with "a big breakthrough," according to Daisey. "We were able to link emissions from water-based paints and solvents to specific symptoms, including dermal and eye irritation." If it continues to prove successful, this methodology will be very useful in identifying sources of SBS.

Is ventilation the problem?

Discussions of IAQ are often closely tied to the issue of ventilation, and for good reason. Prior to the energy crisis of the 1970s, copious amounts of fresh air (heated or dehumidified as necessary) were introduced via hvac systems, effectively diluting most contaminants. In a 1981 standard, ASHRAE reduced the recommended fresh-air ventilation levels to five cu ft per minute per person (cfm/p) for offices. By reducing outside air intake, energy-conservation measures may have concentrated pollutants that previously had gone unnoticed. The 1981 ASHRAE standard was upgraded in 1989 to 20 cfm/p for most office environments. Buildings that effectively meet the new standard are much less likely to cause health problems, according to recent large-scale analyses of IAQ studies in the U.S. and Europe. "That doesn't mean that increased ventilation can solve the problem in a given building," Levin cautions.

Inadequate ventilation remains common, even in buildings that were ostensibly designed to the new ASHRAE standard. For a host of reasons, hvac systems frequently fail to consistently deliver their design levels of outdoor air, and reliably measuring the actual ventilation rate can be tricky. Mechanical engineer David Bearg, of Life Energy Associates, which does hvac-related IAQ research, has frequently seen instances of incorrect components or improper installations leading to significant reductions in the outdoor air provided to occupants. Even where overall outdoor air supply is adequate, good distribution of fresh air to building occupants continues to be a challenge.

Of concern to many experts is the increasing use of carbon dioxide (CO_2) levels to gauge ventilation rates. Although CO_2 is not itself an indoor pollutant of concern, it is often used as an indicator because indoor levels are always higher than outdoor levels, and it can be measured relatively easily (and inexpensively). "It's useful as a screening tool," Levin says, "because if you get a very high reading you know you've got a problem."

But estimating ventilation rates from the difference between indoor and outdoor CO_2 levels is highly problematic because a given measurement assumes that the gas has reached a steady state, which is rarely the case. In addition, Bearg points out that inexpensive CO_2 meters are hard to read accurately, and an untimely breath from the operator can throw off the reading. Bearg does, however, advocate sophisticated, long-term CO_2 measurements as part of an ongoing hvac monitoring system, and the American Society for Testing and Materials (ASTM) Committee D-2205 on IAQ is drafting a provisional standard on the use of CO_2 as an evaluation mechanism.

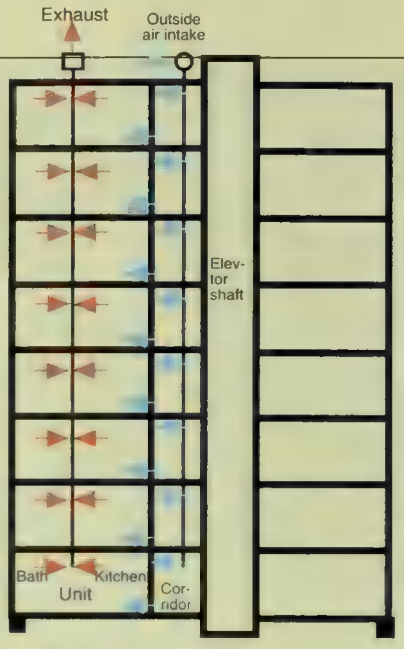
Hvac system design and maintenance

While it is clear that not enough ventilation can contribute to IAQ problems, researchers are also learning more about how poorly designed and maintained systems can actually cause SBS symptoms. Location of air intakes is a potential problem that was recognized early on, as fumes from loading docks or taxi stands engulfed office workers. Less well-recognized is the fact that the mechanical room itself, if situated near outdoor air-pollution sources, can provide a pathway for contaminants into the ventilation system.

In laying out a building, Bearg observes, architects often consider both loading docks and mechanical rooms as "building-support services," and unwittingly place them near

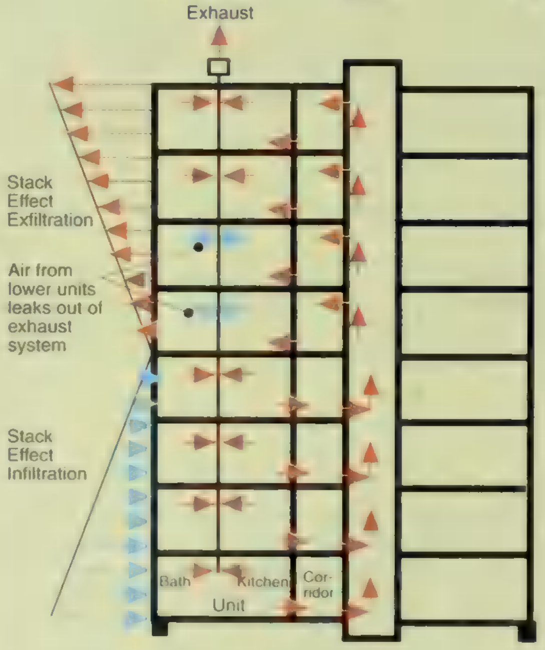
System As Designed

- Outside air is supplied via a rooftop unit, which is ducted to corridors.
- Corridor doors are undercut to allow fresh air to be supplied to individual apartments.
- Rooftop fans are intended to draw exhaust air from kitchens and baths.



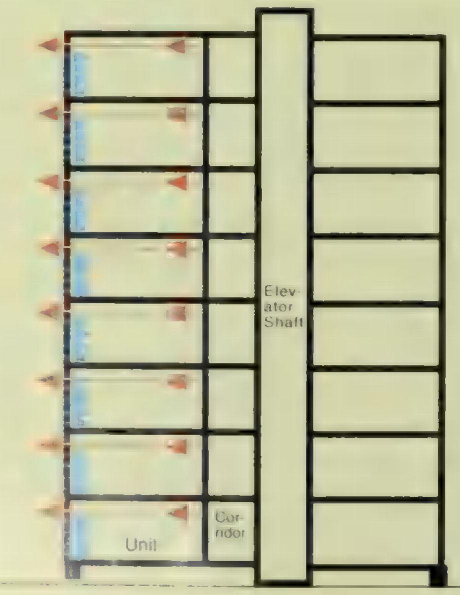
System As Found

- The rooftop fan that supplied outside air was not operating.
- Air flows due to the stack effect dominated those designed.
- The rooftop system actively exhausted only the uppermost units.
- Some lower-units' exhaust was due to a passive stack effect.
- Exhaust air from the lower units was leaking into mid-level apartments.
- Stale air from lower units migrated into upper units through elevator shafts and corridors.


Exhaust
Stack Effect Exfiltration
Air from lower units leaks out of exhaust system
Stack Effect Infiltration
Bath
Kitchen
Unit
Corridor

System As Proposed

- Individual ventilation of units will be provided through the exterior wall.
- The units will be compartmentalized, isolated from corridors and shafts [which most codes would require anyway—ed.]
- Corridors and stairwells will be pressurized via a smoke-control system tied to fire-alarm controls.



each other. Much of the increasing attentio to microbial contamination mentioned abov is focusing on the growth of microbials witl the hvac system. Microbial growth is comn wherever dampness persists. The introduc tion of humid outdoor air into a cooler building causes condensation which, if not drained effectively, can spur such growth. "The critical areas that need to be kept cle are the condensate pans and the interior of the ductwork," Bearg says, adding that regular cleaning and maintenance is critica to the prevention of microbial growth. (The images opposite graphically convey the sta of too many hvac systems.) Design decisior about the location and accessibility of hvac components may well dictate whether or n such maintenance is carried out.

To further confuse matters, providing the recommended levels of ventilation can itsel be a problem. "It's a dumb number," buildi scientist Lstiburek says of the 20 cfm/p in t new ASHRAE standard, adding that providi 20 cfm/p in hot, humid climates is a recipe f disaster. Having investigated dozens of bui ings with air-quality problems from New England to Florida, he is convinced that ad quately dehumidifying that much fresh air within energy-code constraints is very tricl and rarely accomplished. The result of this failure is inevitable microbial growth, with the associated health and odor complaints.

Cleaners can dirty the air

While the potential for off-gassing of pollu- tants from building products has received a great deal of attention, there is also growin concern for repeated exposures from regul maintenance. This shift reflects, in part, the fact that many of the worst offenders amon new materials, such as solvent-based paints and products that off-gas high levels of formaldehyde, are being replaced with safe alternatives. Architects must still know enough to specify low-emitting products, according to Levin, but such products are now commonly available.

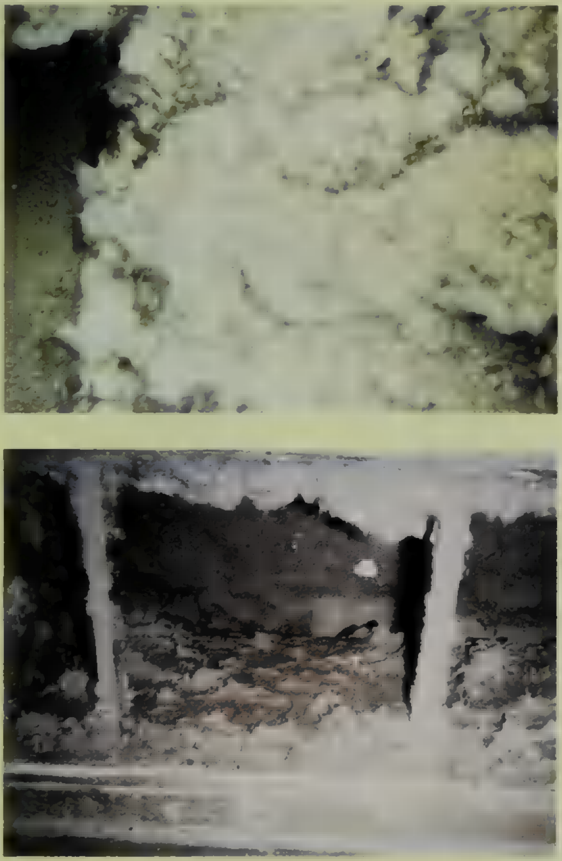
To address the ongoing releases of solvents and other VOCs from cleaning and resurfa ing products, IAQ-expert Levin advocates increased attention during the design phas to the ongoing maintenance requirements o finish materials, based on manufacturer-re ended procedures. With carpets, for ıple, concerns about initial off-gassing ›e managed through careful selection of arpet and installation system and ıgh increased ventilation during and ediately after installation. But carpets to trap contaminants from the air and, if get wet, harbor mold and mildew. These ing concerns can only be addressed with tive, consistent maintenance. Long-term ıtenance contracts with the carpet manuırer are an increasingly popular route to carpets. Or the architect can select r-to-clean, less absorbtive surfaces.

king towards solutions

nan Kurtz, principal with Flack and z Mechanical Engineers of New York feels that the enormous attention IAQ lems have been getting is making a difıce. "People are taking more care, and ning better to the mechanical engineer," ıys. Whereas formerly the hvac system a frequent candidate for cost-cutting sures because it was hidden away, that is h less common today. "Air quality is now estion that comes up early in the ect," Kurtz says, "and good proposals t get much of an argument anymore."

n the building occupant's perspective, onal control of air flow and thermal fort can go a long way toward addressing erns about air quality. Personal environtal-control systems, which provide rate fresh air and temperature control at y station, are an expensive but effective tion [RECORD, May 1994, pages 34-35, Operable windows, once inconceivable in mercial buildings, are also increasingly idered. "Occupants of buildings clearly a desire for operable windows," IAQ yst Bearg says. Lstiburek agrees: "I k operable windows are a great approach, they require a fundamental rethinking of way we design building envelopes." In ium- and high-rise buildings, open lows will change internal pressures, ving pollutants into occupied areas that ld otherwise be exhausted, according to engineers.

itional research on microbial contamina- and on VOCs in buildings is helping itects and others get a better understanding of SBS. Great strides have already been made by changes in products to reduce off-gassing in occupied spaces; improved air-distribution methods are now much better understood. Certainly these improvements will prevent some cases of SBS in new buildings. To solve many of the worst cases, however, more fundamental alterations may be necessary—ones that address the interplay between a building's envelope and its mechanical systems. These will require close integration of the design process, with mechanical engineers working alongside architects even during schematic design. Poor IAQ in buildings is an interdisciplinary problem, requiring interdisciplinary solutions. ■



© Courtesy Ductdusters/J. May Home Inspections

The mold growing on dust in poorly maintained ducts is increasingly seen as a source of indoor-air contamination (right). The performance of systems can also vary hugely from that intended, as building scientist Joseph Lstiburek found in an apartment building (opposite).

IAQ Checklist for Architects

Fresh Air

•*Stick to the fresh-air levels* recommended in ASHRAE standard 62-1989. In humid climates, ensure that the humidity loads of this fresh air are handled appropriately.

•*Allow individual user control* of fresh air and temperature as much as possible.

•*Locate air intakes* and primary air-handling components away from loading docks, taxi stands, or other potential sources of air pollution. Avoid infiltration of pollutants at mechanical rooms.

•*Specify continuous mechanical ventilation* in houses. It can be provided using dedicated systems that balance supply and exhaust, or with exhaust-only fans—quiet, high-quality bathroom fans will do—and dedicated air-inlet ports. In very cold climates, consider balanced systems with heat-recovery devices.

Air Leakage Control

•*Seal off any spaces undergoing renovation.* Ensure isolated areas are separated from the air-distribution system.

•*Minimize unintended air leakage.* If the hvac system is fully ducted, make sure that ducts are well sealed. If a dropped ceiling or other cavity is used, seal it effectively.

•*Prevent air from leaking* into elevator shafts, stairwells, or other vertical spaces. This keeps stack-effect pressures from undermining the air-distribution system.

Materials and Maintenance

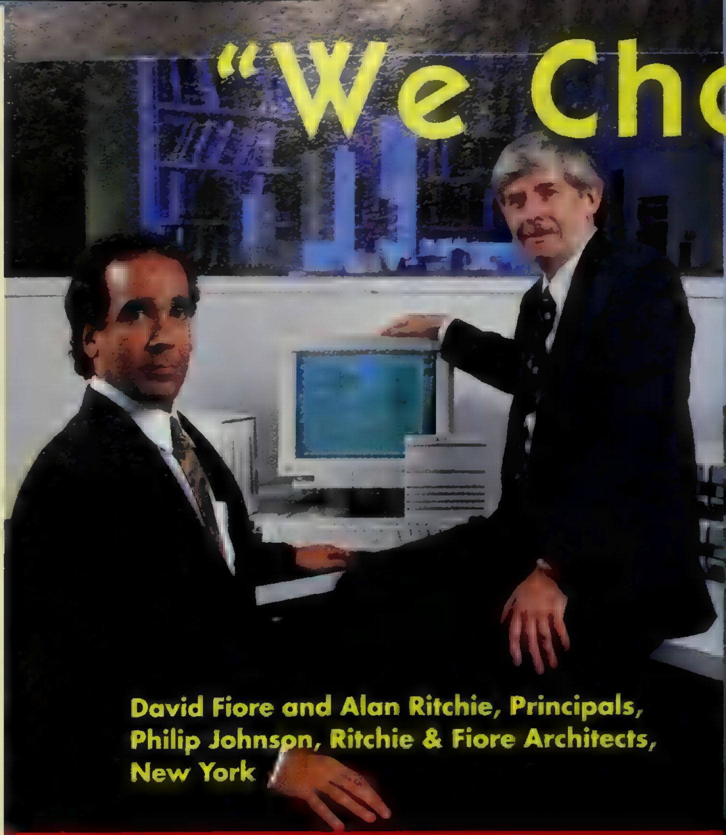
•*Demand VOC off-gassing test* results for interior materials. Avoid materials with unreliable data or poor test results.

•*Avoid materials* for which recommended maintenance requires repeated VOC exposure. Or consider manufacturer-recommended maintenance contracts.

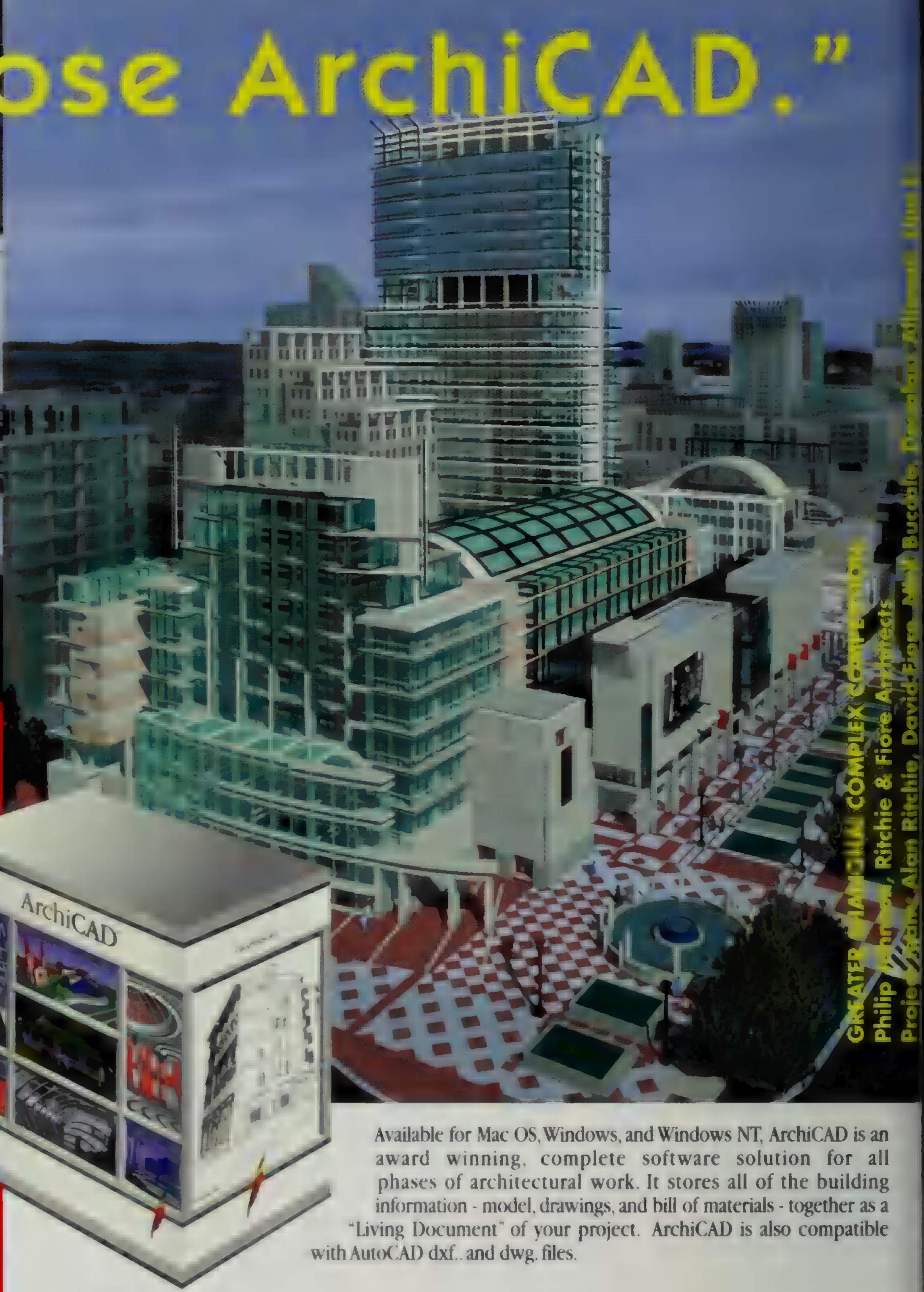
•*Check the hvac system design* for ease of maintenance and accessibility of components. Assure accurate as-built drawings.

•*Insist on a comprehensive building-commissioning program* to ensure that all systems are operating as designed. ■

"We Chose ArchiCAD."



David Fiore and Alan Ritchie, Principals, Philip Johnson, Ritchie & Fiore Architects, New York


ArchiCAD
GREATER SHANGHAI COMPLEX COMPETITION
Philip Johnson, Ritchie & Fiore Architects
Project Team: Alan Ritchie, David Fiore, Buccola,

So much of our work is done on computer these days, that the choice of CAD software becomes critical to the overall efficiency of the office. We chose ArchiCAD so that the entire office can standardize under one system. Since our approach is to have the senior staff do as much of the 'hands on' work as possible, an integrated software allows them to spend more time on project management and less time on system management.

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The Shanghai Complex Competition was definitely a situation where a small project team was able to produce a large quantity of high quality presentation drawings in a matter of days. Any other method of approaching the project would certainly have taken several more people, and we would have had to scale back our presentation.

David Fiore, Principal
Philip Johnson, Ritchie & Fiore Architects,
New York

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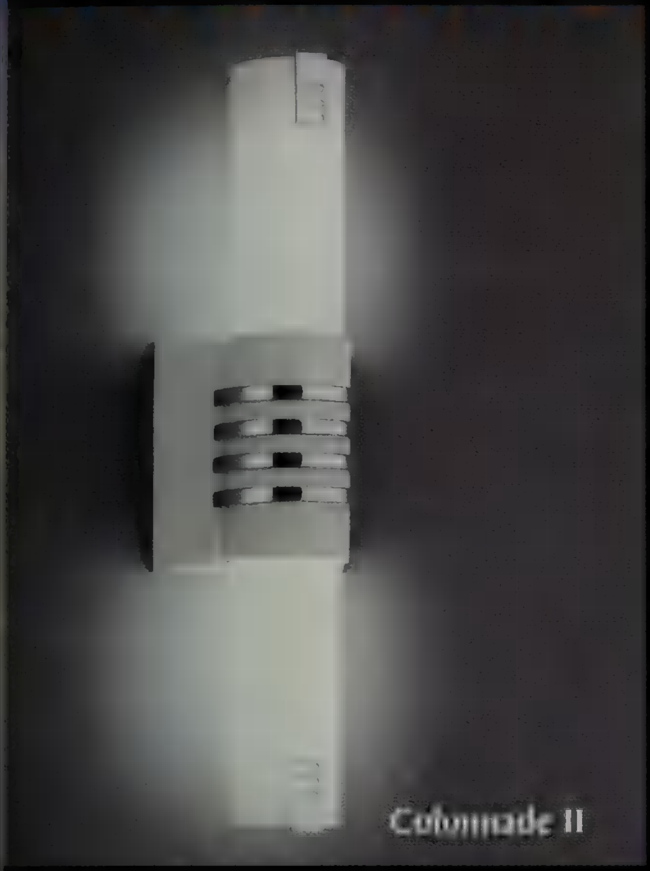

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Arena Trades In Cables For Trusses

The competition to give unique form to big-city arenas has heated up. Tight-as-a-drum budgets mean that most of the massive new venues for basketball, hockey, and high-tech concerts can be little more than ovoid blobs decorated with sentimental neo-trad touches, Modernist tics, or DeCon twitches. Not so in Seattle, where a technically demanding reconstruction has given new life to a uniquely graceful building—one that didn't even start life as an arena.

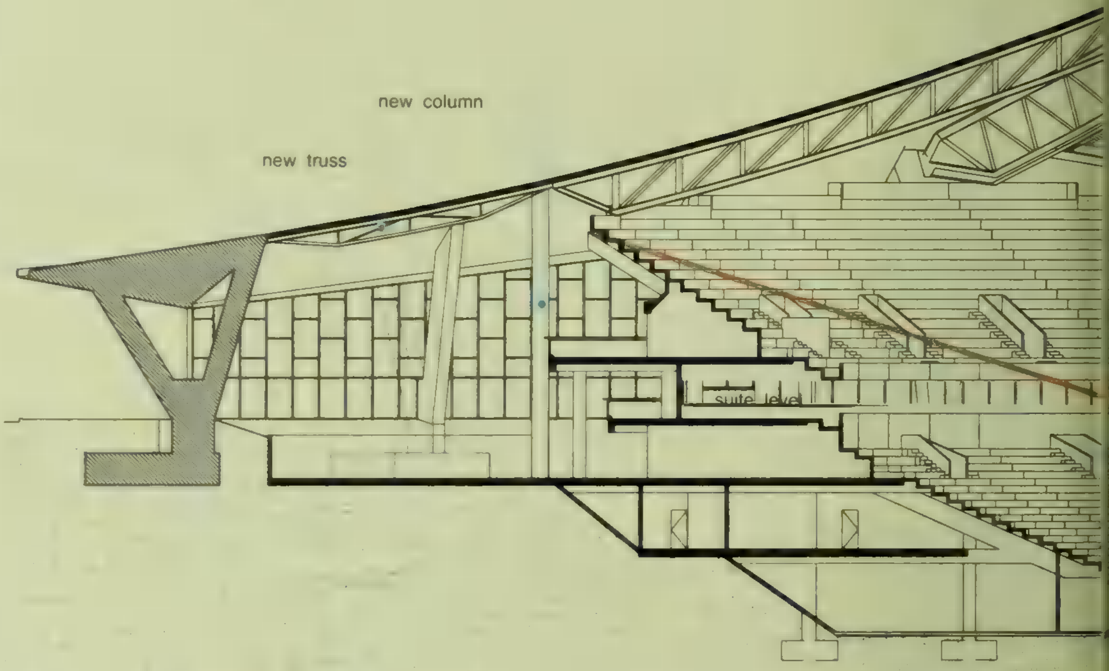
Though numerous cities have planned or built new large-scale arenas, the National Basketball Association says 19 venues from the 1960s and 1970s remain functionally obsolete. These days, though, citizens balk at ponying up the $130- to $500-million it takes to build major new sports facilities. (Local voters recently turned down a baseball-stadium bond issue.) Seattle's experience may cause more cities to look at re-use.

Project officials in Seattle estimate that the Key Arena's project costs, at $74 million, came in at more than $40 million below a comparable new structure. Also, the proposed site of a new facility had sparked controversy, and environmental reviews and permitting were expected to take two years alone. By reworking the existing Seattle Coliseum, the city avoided all that and retained a building that was well-loved.

But the feasibility of rebuilding the Coliseum was hardly obvious: architect NBBJ had to find a way to add about 3,000 seats (to the existing total of 14,400 in basketball configuration), 58 luxury suites, and a club area with 550 seats. Just as important, it had to figure out how to fix a roof that was daring in its original conception but had leaked almost since the building opened.

Roof "fluttered like a clothesline"

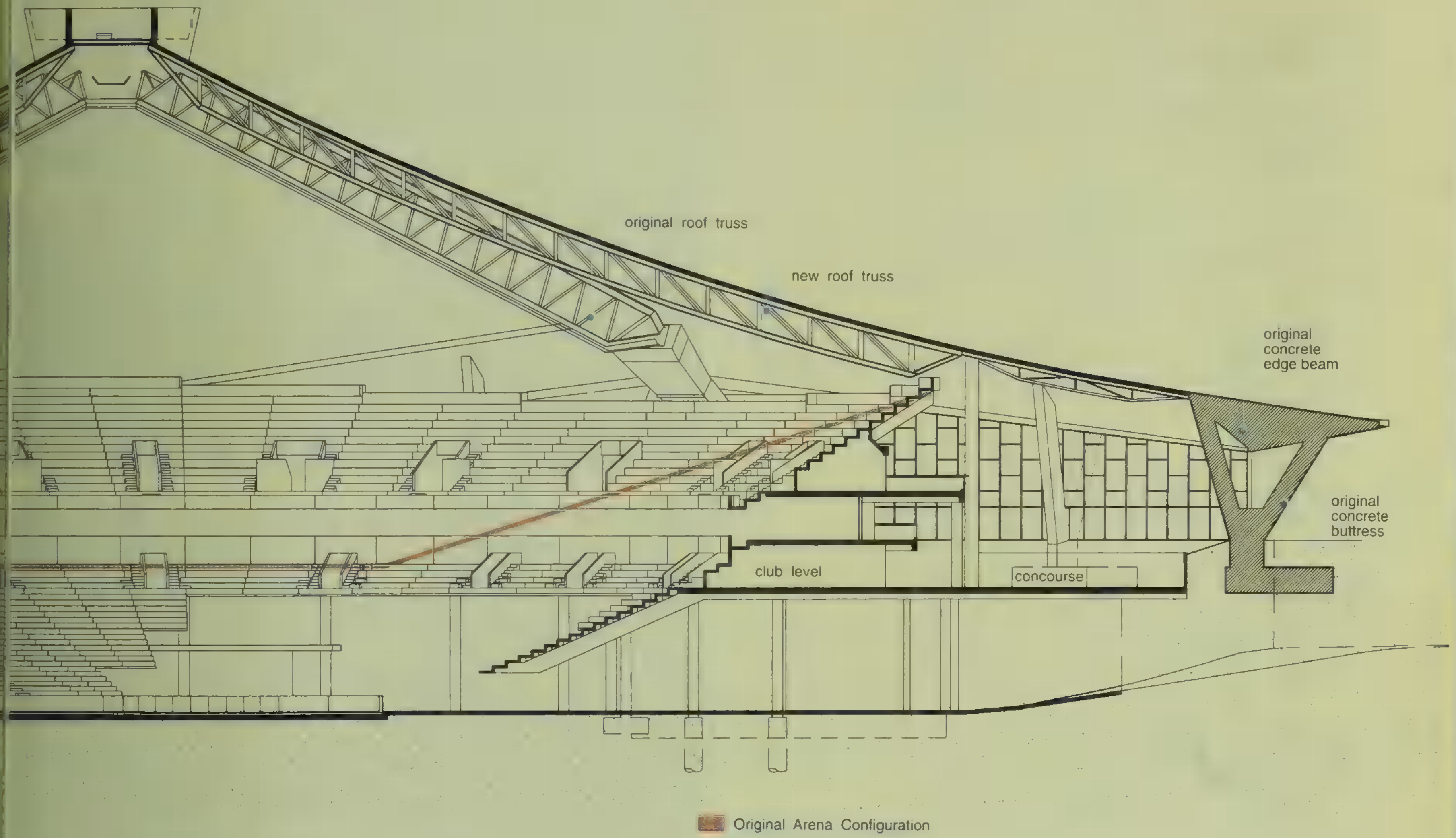
The building's tentlike form came about because it originally housed the State of Washington's exhibit during Seattle's 1962 worlds fair. It was only converted to an arena after the fair closed. Paul Thiry, perhaps Seattle's most distinguished post-war architect, master-planned the fair site, and designed the Coliseum as a 400-ft square horizontal [illegible] to the 600-ft-tall Space Needle. [illegible] Thiry sus-

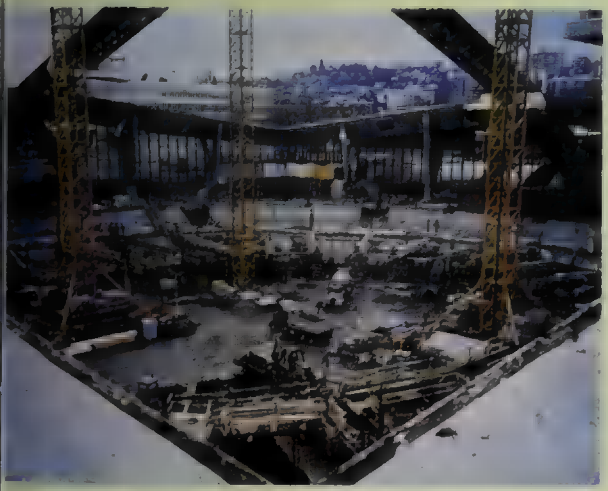


DIAGONAL SECTION LOOKING SOUTH EAST

Having devised a square plan, original architect Paul Thiry framed the roof not from the corners in a conventional hip, but with four giant steel-framed ridge trusses that spring from the middle of 30-ft-wide, 15-ft-deep sculpted-concrete edge beams (2). Gravity loads are carried to ground by huge external buttresses (3). Because it is highly visible from surrounding hills (4), NBBJ made sure the new aluminum standing-seam roof (1) differs little in appearance from the original. New trusses (section) follow the original roof shape.

1


original roof truss
new roof truss
original concrete edge beam
original concrete buttress
club level
concourse
▨ Original Arena Configuration



3

4

© Steve Keating

pended a network of cables on which was mounted 4- by 8-ft aluminum sandwich panels (original details opposite). The roof depended for water tightness on an elastomeric membrane bridging panel gaps and held in place by battens; channels in supporting extrusions were supposed to carry away any leakage.

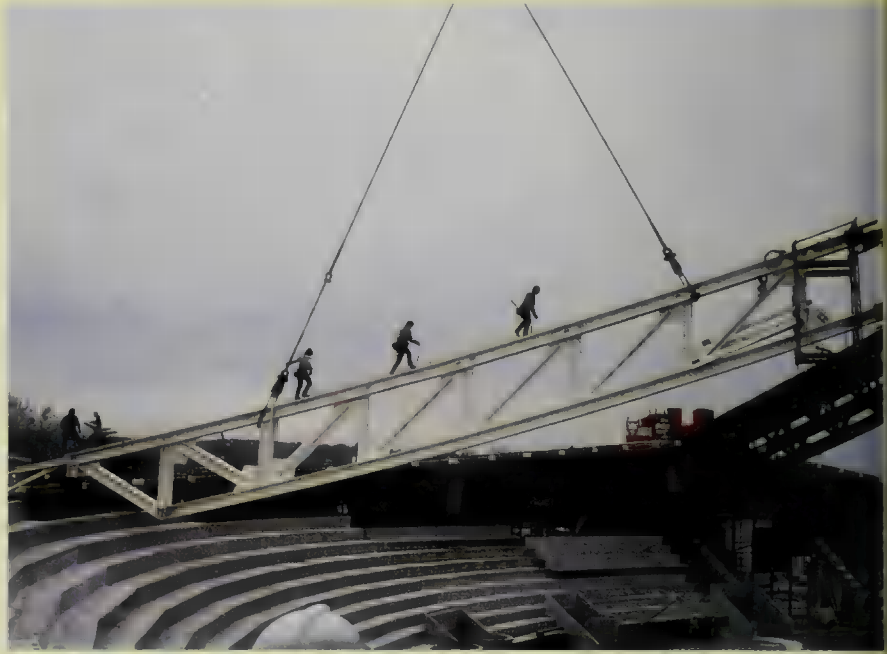
Though the resulting draped configuration of the roof was elegant, "The roof would move as much as two ft up and down in the wind," comments Dennis Forsyth, NBBJ's project manager, "so leakage was guaranteed." Others compared it to a clothesline fluttering in the wind. Numerous fixes over the years had failed.

With sentiment strong to retain the roof appearance and configuration, NBBJ considered such options as coating the entire surface with a single-ply membrane, draping a new membrane below the older roof, even replacing the roof with a new fabric one. Options were ranked for cost, impact on appearance, and expected reliability. The city chose a new roof and rigid-support system.

Engineers Skilling Ward Magnusson Barkshire (SWMB) added new "ridge" trusses at the corners maintaining the roof's hyperbolic-paraboloid shape (section, previous pages). These bear on new columns at the edge of the bowl. "This ended up being the most economical solution," says Brian McIntyre, a vice president at SWMB and the firm's project manager for the arena, "and allowed us to put a good portion of the additional load into the new columns. We didn't have to increase the capacity of existing trusses to take the load of the new, heavier roof."

While not as esthetically elegant as the original design, the scheme minimized the depth of framing members at the low point of the ceiling, allowing more seats to be squeezed in under the roof. The original roof routed extremely large forces through the ridge trusses and buttresses, much larger than forces anticipated even by today's more strict seismic codes. The existing enclosure, therefore, required no seismic upgrading.

The new roof system is conventional: Atop metal decking and gypsum sheathing, rigid



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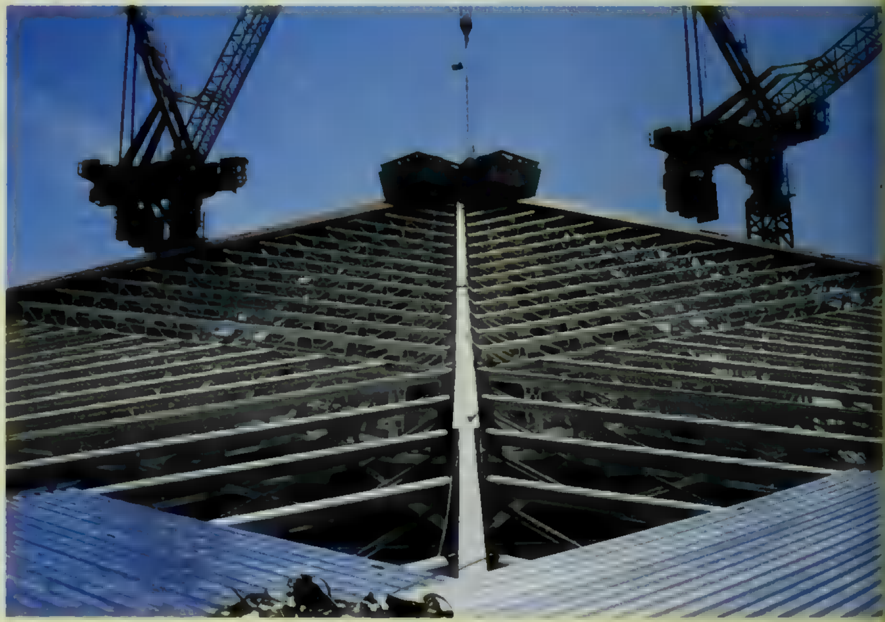
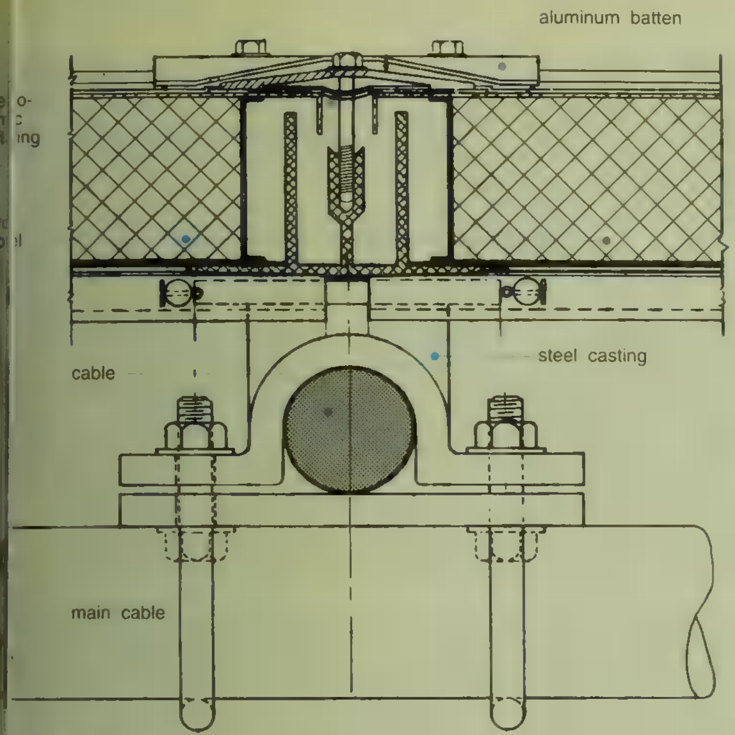


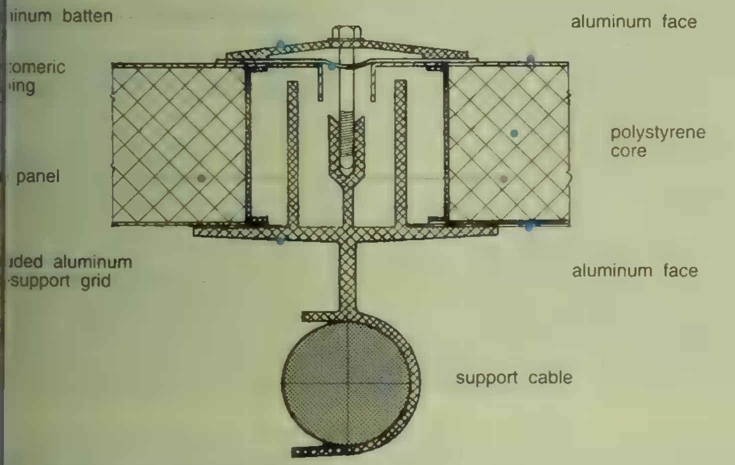
6

New trusses springing from th corners are curved to maintai the original roof shape (in for ground, 5). Smaller trusses frame between new and existi main trusses perpendicular to the fall line of the roof on its upper half. On the lower half, trusses frame parallel to the fa line from an intermediate tru to the concrete edge beam (6). The framing layout meant tha none but the main new truss needed to be curved.

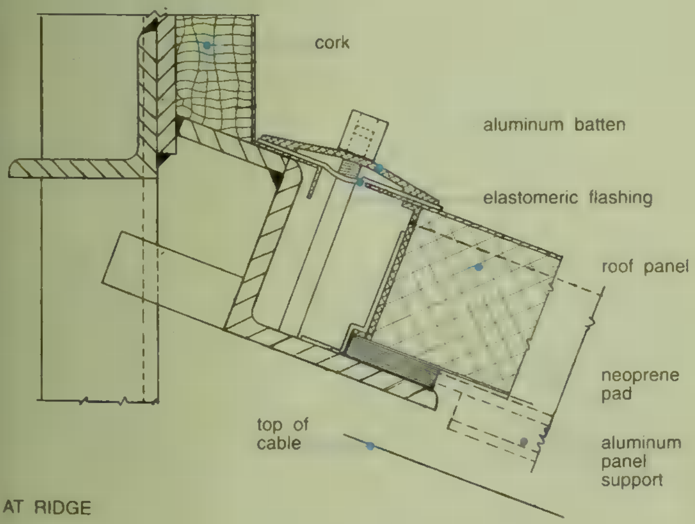
ginal Details



TION AT CABLES

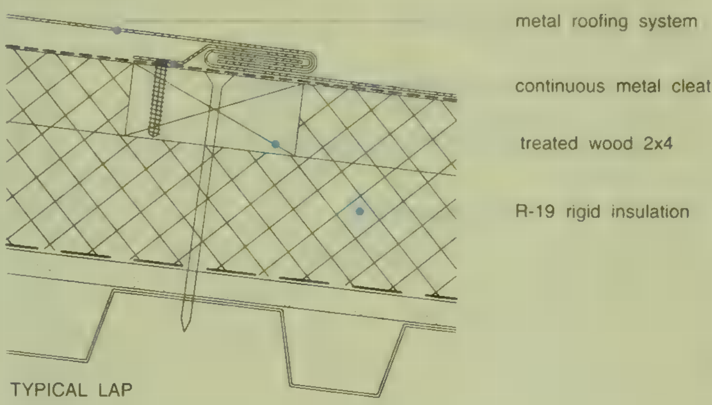


F PANEL AND CABLE SUPPORT

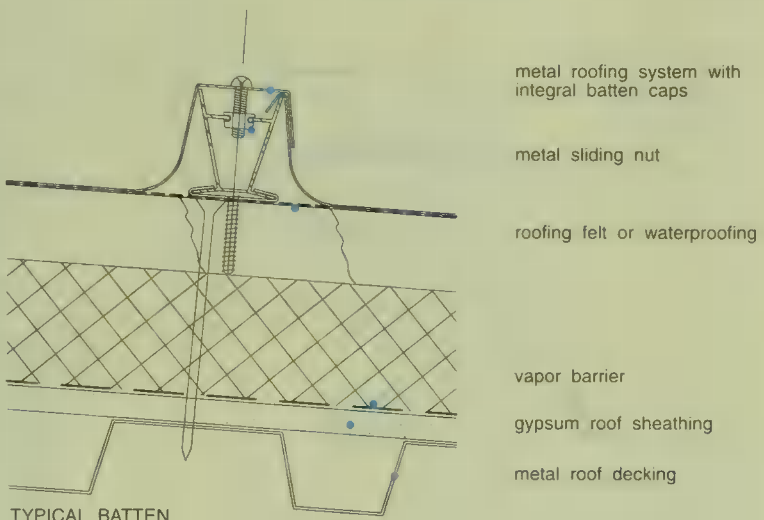


OF AT RIDGE

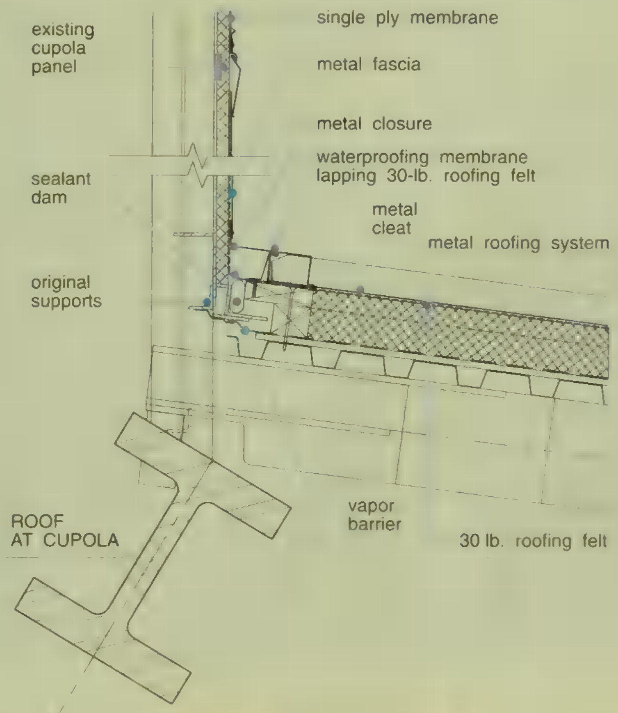
New Details



TYPICAL LAP


metal roofing system with integral batten caps
metal sliding nut
roofing felt or waterproofing
vapor barrier
gypsum roof sheathing
metal roof decking

TYPICAL BATTEN



ROOF AT CUPOLA

insulation with integral nailers supports a standing-seam mill-finished aluminum roof (new details, previous pages).

Construction challenges

With removal of the existing roof-cable supports, "We worried about both stress and movement," explains McIntyre. The cables carried roof loads to the edge beams, which had been prestressed to resist the loads. Once the cable-roof loads that had countervailed the prestressing were lifted, "the edge beam becomes unbalanced and wants to spring outward." To avoid resultant cracking, the engineers specified that new steel prestressing strands be added as the cable net was removed—a procedure that took only a weekend.

The Coliseum has one unique feature that eased remodeling: its seating bowl, built after the fair, was structurally independent. Contractor PCL Construction Services completely removed the old bowl and dug out the interior to drop the floor 35 ft. With the added seats, the rake of the new bowl is much steeper than the original, giving spectators shorter sightlines than other arenas of similar capacity. Entrances were lowered one level; NBBJ was able to extend the original curtainwall downward. Aside from needlessly crude signage advertising a local bank under a "title sponsorship" agreement, the exterior of the Coliseum is little changed.

James S. Russell

Credits
Key Arena
Seattle, Washington
Owner: *City of Seattle*
Architect: *NBBJ—Ralph Belton, project architect; Dennis Forsyth, project manager; Rick Zieve, project designer; Reema Abu Gheida, Bill Auld, Steve Bettege, Kerry Hegedus, Cathy Kraus, Halliday Miesberger, Doug Sabatke, Cris St. Aubyn, Slava Simontov, Ed Storer, Rysia Suchecka, project team*
Engineers: *Skilling Ward Magnusson Barkshire (structural, civil); Berona/Langebartel (mechanical); Elcon Associates (electrical)*
Consultants: *Horton-Lees (lighting), JD-21 (event lighting); Michael Yantis (acoustical)*
Contractor: *PCL Construction Services*

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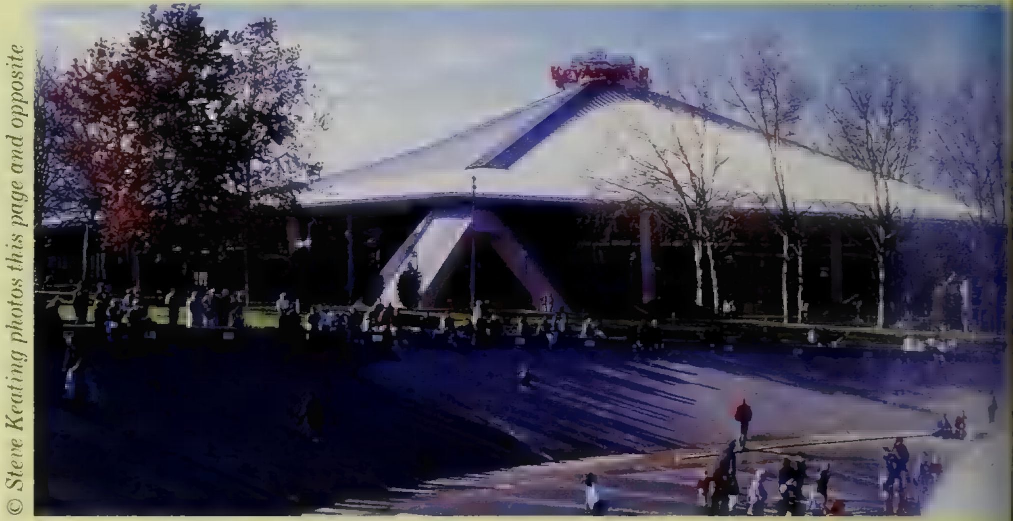
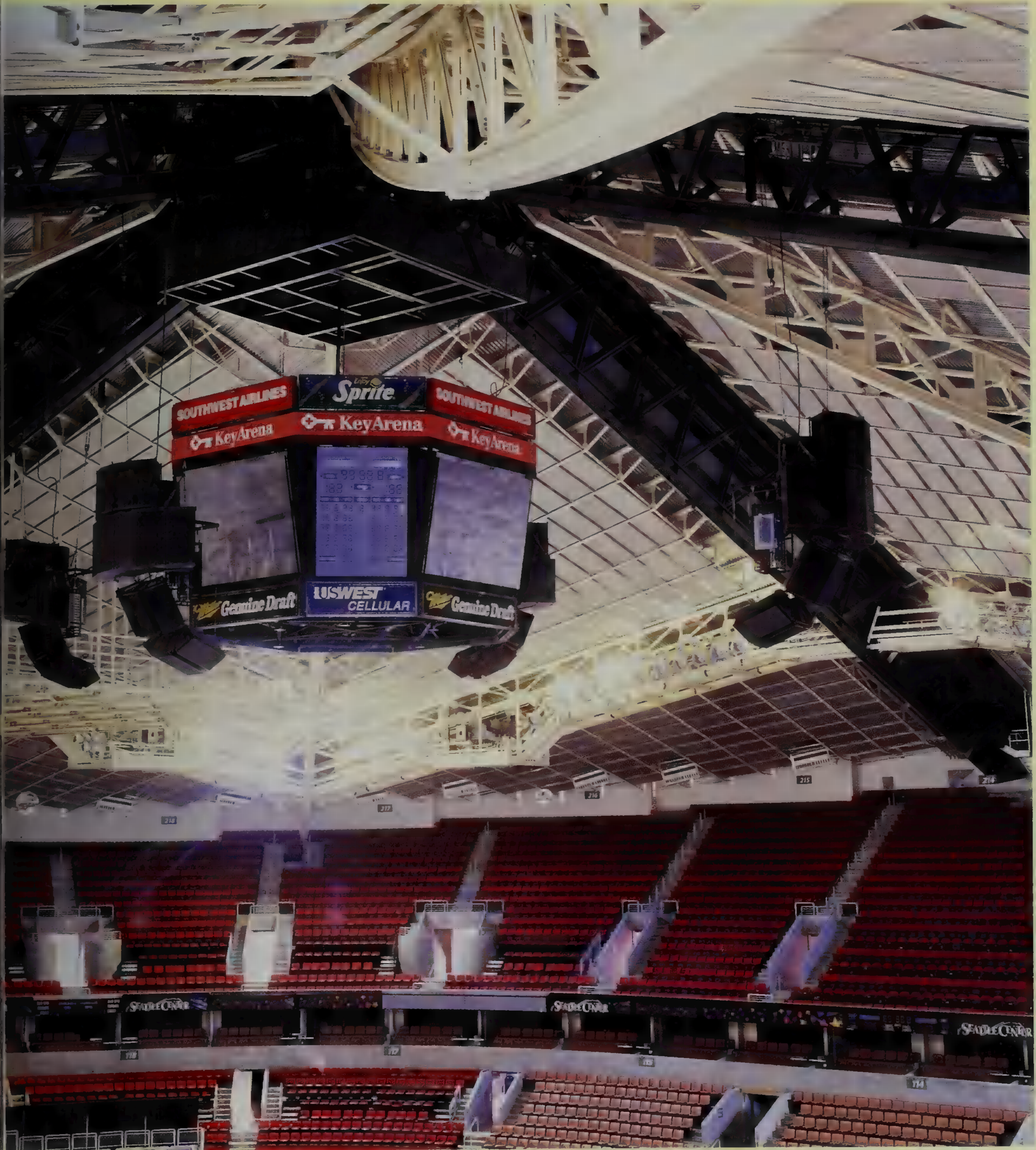

7

8

9

Key Arena's exterior is little changed (7,
site). NBBJ lowered the entrances a full
y, adding new external stairs (9). The
bowl requires five access levels instead of
ormer two, so circulation is much more
plex—esthetically and functionally—
and the concourses less spacious. In the interior (10), the existing main roof trusses are dark, the new ones light. A 120,000 lb.-capacity rigging grid for large-scale arena concerts hangs from the new structure. Acoustical panels are refurbished originals.



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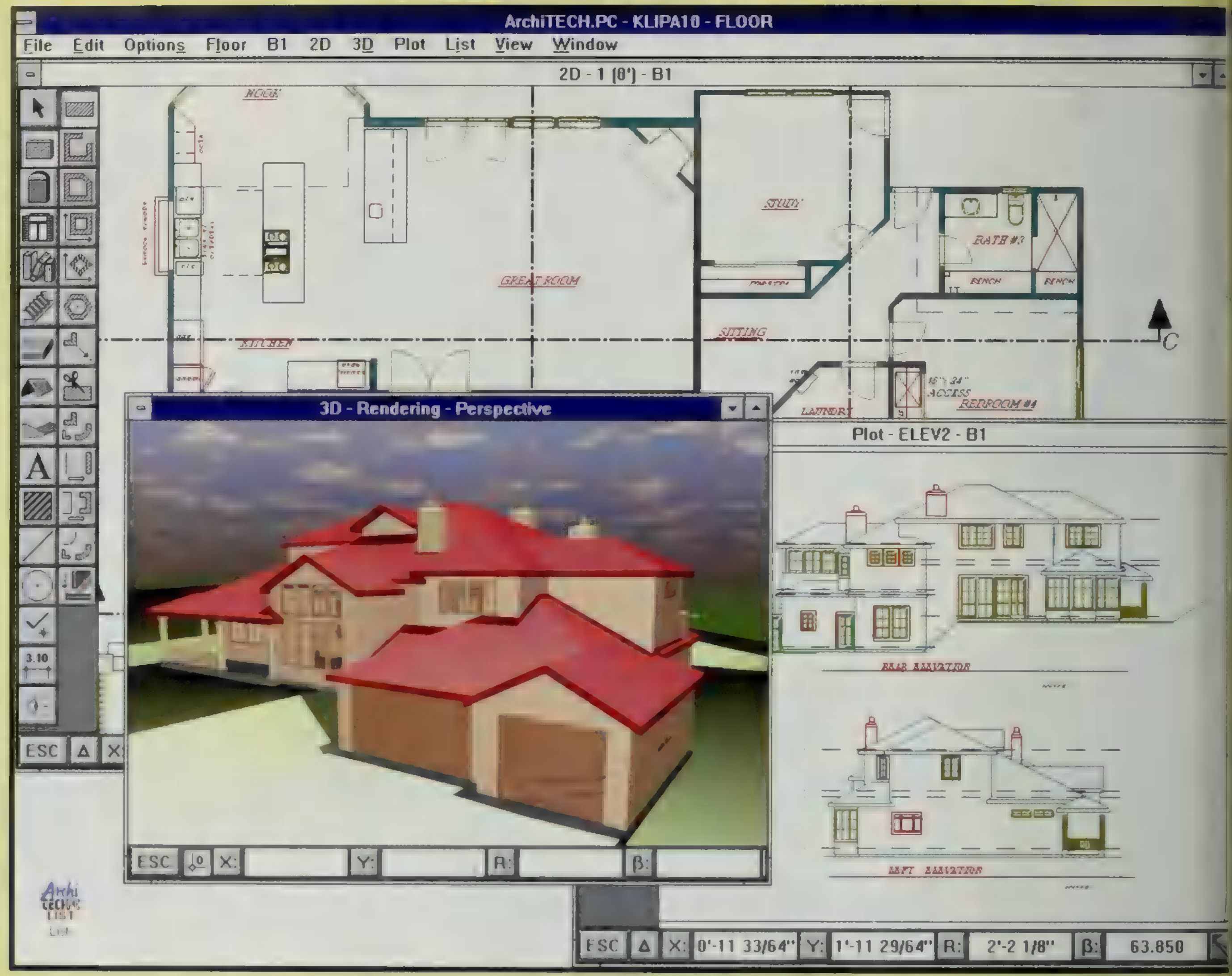
Jules Verne



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SoftCAD™ USA, 1620 School Street, Moraga, CA 94556

Facelift for icroStation V5

Offices with older, slower computers are getting better choices—CAD programs that run in Windows, too. This month we look at one of them, MicroStation 95.

Steven S. Ross

: when you were ready to do Windows . . .

architectural world has been at a cross- ls for the past few years when it comes to puter systems. Most CAD seats sit in it of Intel-CPU computers running MS- S. Most new CAD software takes antage of Windows. Architects don't want witch from DOS to Windows, mainly ause DOS systems are faster.

ar, Autodesk and Bentley have continued ffer DOS versions of their flagship prod- , AutoCAD and MicroStation. But they keep improving their Windows versions, ing to pull more customers away from S. Windows is easier for software vendors ervice.

dows also offers much more flexibility; e are better facilities for moving drawing tent and underlying databases from one gram to another. Vendors of peripherals h as printers and plotters also like the of writing one driver—for Windows— ner than one for each CAD package.

of that is nice, but it doesn't help the office 1 older, slower computers. This opens a ie for developers of faster Windows CAD grams—not as powerful or as flexible as roStation or AutoCAD, but more power- than any CAD packages of five or six rs ago. Dealers also have forced speed rovements and interface improvements in oCAD and MicroStation too. Vendors e also been selling their CAD "engines" use in specialized products—essentially d-ons," for example ones for landscaping kitchen-design that run without needing to 'added on" to Auto-CAD or other CAD kages.

tested AutoCAD 13's "WHIP/c3" grade a few months back, and reviewed ne add-on packages [record, April 1995, es 34-35]. This month, we look at Micro- tion's upgrade. It can run in DOS or older sions of Windows—and it runs well. But especially liked it with Windows 95, the test version of Windows available.

MicroStation 95

Vendor: Bentley Systems, 690 Pennsylvania Dr., Exton PA 19341, 610/458-5000, fax 610/458-1060, 800/BENTLEY, jen.mcwilliams@bentley.com, http://www.bentley.com.

Equipment required: Roughly the same as MicroStation 5.0; versions are available for DOS, Windows, Windows 95, Windows NT (Intel and DEC Alpha CPUs), OS/2 Warp, Power Macintosh, Sun SPARC, Silicon Graphics, HP RISC, IBM RS/6000, Intergraph Clipper.

Cost: $3,950; free upgrade from Version 5.0 for MicroStationCSP subscribers and those who purchased Version 5.0 after January 1, 1995 (and into 1996); upgrades from other versions are $475 to $750.

MicroStation 95 is basically MicroStation V5 with a jazzier interface and better data exchange. In fact, the resulting drawing files are identical in format and the basic CAD engine is just about the same. Much of the new interface was developed with MDL, the (MicroStation Development Language)—just as a large office or third-party developer would create add-ons. With MicroStation 95, changes can be made in one module without affecting others. This makes it fairly easy to offer it on a wide variety of platforms. (We've seen the interface before, on Bentley's stripped down, half-price PowerDraft [RECORD, May 1995, pages 44-45]).

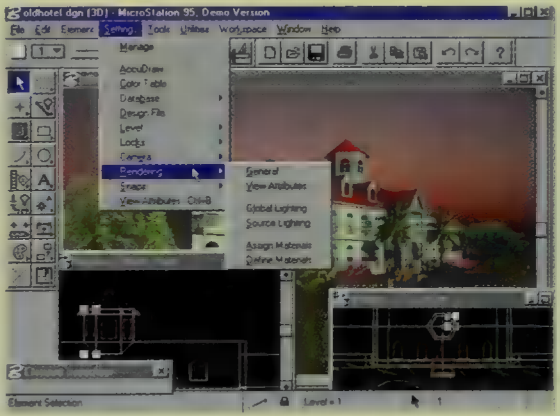
We reviewed MicroStation 95 on a 75MHz Pentium with 16MB of random-access memory—about the least-powerful machine people are considering for CAD seats these days—and it ran acceptably. If your drawings are truly huge, with thousands of entities, go for a faster machine and more memory.

You get a lot with the basic package—rendering, 3D walkthroughs, excellent database hooks, and so forth. There are plenty of third-party add-ons available as well.

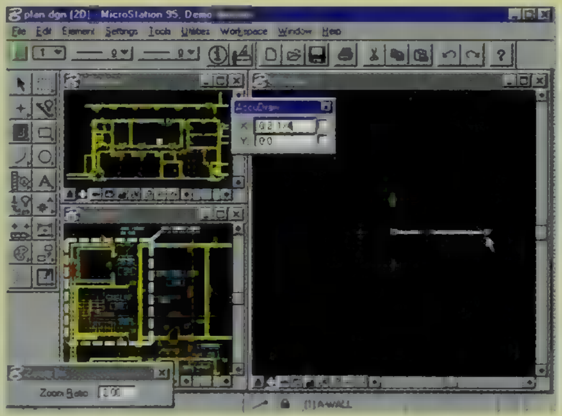
The AccuDraw function allows MicroStation to anticipate each input from your last one. In a way, it works like a T-square and triangle—to specify the beginning and end points of the line you want to draw, you move your cursor along the X axis, for instance, then up the Y. The entity you specify (straight line, arc, or otherwise) appears between the proper starting and ending points. You can also use a polar coordinate system when that's more convenient; for instance, when you work on arcs or domes.

It takes some getting used to, but an hour or two of intense training should pay off in much faster (and more accurate) line placement. That, in turn, pays big dividends if you expect to render your drawing later; small inconsistencies can make a mess of a rendered image.

The key issue we looked at was whether or not to upgrade. If you have an earlier version of MicroStation and are using Pentium com-



Microstation 95: *Several views on screen; note the rendered view in the large window. Rendering will disappear without warning if you zoom on the image, but you can save the rendered view, of course.*


plan.dgn [2D] - MicroStation 95, Demo
File Edit Element Settings Tools Utilities Workspace Window Help
AccuDraw
Zoom Ratio 1.00
(1) A-WALL

AccuDraw window: *With AccuDraw in use, you key on the starting point for your new element, move in the direction you intend to go, and it locks in one coordinate.*

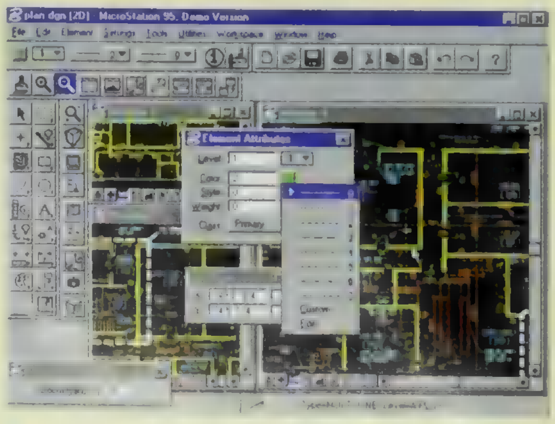
puters, we suggest that you switch to Windows95 or MicroStation95. But delay the conversion if you are in the middle of a project. The benefits come mainly with Windows 95, and fiddling with yours is time-consuming. (The old and new interfaces are on the same CD-ROM, but why spend the money if you aren't going to switch?)

Is this a tool for practices working on smaller projects? Probably not. But there are exceptions—high-powered packages like MicroStation have great add-on software available, for energy conservation, details, cost data, and so forth. They may be of use even on small projects under the right circumstances.

MicroStation is also the most full-featured drafting tool you can get for the Power Macintosh.

Manuals: Separate paperbacks for setup, upgrading, command reference, system administration, MicroStation BASIC programming, tutorial.
Ease of use: Excellent, with a few oddities that take getting used to. Zoom control, for instance, is buried deeply in the menu system, but easily available on window-edge icon bars and floating tool boxes. You can have up to eight drawing windows open at once, but the menu bar that activates them simply adjusts the views by "number"; you can't tell from the menu whether a viewport (window) actually has a view inside.

Error-trapping: Excellent. Most of the problems are in networked installations. As with all big packages, MicroStation allows you to spread your drawings across a network and reference them to each other.
120 *on Reader Service Card*



[illegible] [illegible]

DataViz Conversions Plus 3.5

Vendor: DataViz, 55 Corporate Drive, Trumbull, CT 06611, 203/268-0030, fax 203/268-4345, 800/733-0030, http://www.dataviz.com, AppleLink D0248.

Equipment required: Computer capable of running Windows 3.1 or higher, with at least one 3.5-in. high-density floppy disk drive.

Cost: $149 (upgrades from earlier versions are $39.95); MacOpener, without file translation, is $75.

There are two barriers that must be overcome if you plan to move files between DOS/Windows computers and Macintoshes that are not networked. First, one computer must be able to read the other's disk. Second, you may have to convert the file structure or coding of the file itself.

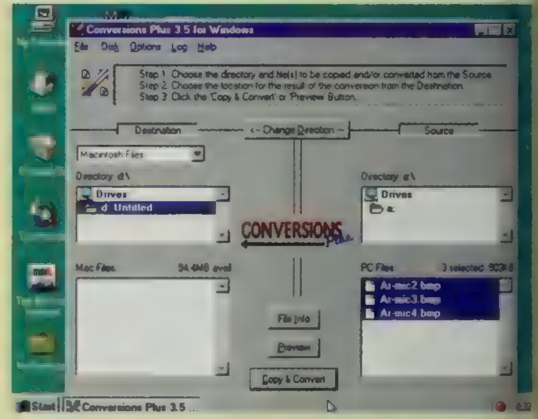
Reading the disk is the main problem. Macs can read 720K and 1.44MB DOS/Windows floppy disks; the capability comes with System 7 and higher. But few architectural files will fit on a floppy these days.

This latest version of Conversions Plus allows a PC to handle 1.44MB floppies, CD-ROMs, SyQuest disk cartridges, and Iomega Bernoulli and Zip cartridges formatted for the Mac—so long as they are installed with Windows-compatible ASPI SCSI drivers (SyQuest and Iomega Zip drives always are; other devices may not be). To read DOS/Windows SyQuest and Iomega disks in a Macintosh, you'll need an upgrade to System 7.5. The upgrade may cost more and require more machine-tinkering than simply doing everything at the DOS/Windows computer.

You can also use Conversions Plus to convert file formats—from Windows BMP to Macintosh PICT, for example. But in most cases, the CAD software itself will do the conversions you need. If that is the case, you can get by with MacOpener—it reads Mac disks in PC, but doesn't do conversions.

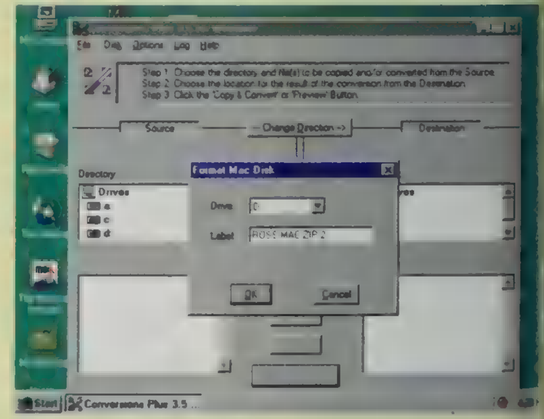
If you are still using DOS without Windows Mac-in-DOS Plus by Pacific Micro will read Mac floppies and SCSI disks (SyQuest and Iomega) but not CDs. It won't translate file If you need that, try Word for Word by Mas tersoft.

Manual: A straightforward 71-page spiral-bound.
Ease-of-use: Good.
Error-trapping: You can't unformat a DOS/Windows disk you turn into a Mac dis that's a limitation of the operating systems, not Conversions Plus.
121 *on Reader Service Card*



Step 1 Choose the directory and file(s) to be copied and/or converted from the Source
Step 2 Choose the location for the result of the conversion from the Destination
Step 3 Click the 'Copy & Convert' or 'Preview' Button.

DataViz Conversions Plus 3.5: *Formatting a 100MB in an Iomega Zip drive as a Macintosh disk, in drive D on Windows 95 computer*



Step 1 Choose the directory and file(s) to be copied and/or converted from the Source
Step 2 Choose the location for the result of the conversion from the Destination
Step 3 Click the 'Copy & Convert' or 'Preview' Button.

Copying files: *You copy from drive A (a D floppy) to Drive D (the Mac-formatted Zip drive*

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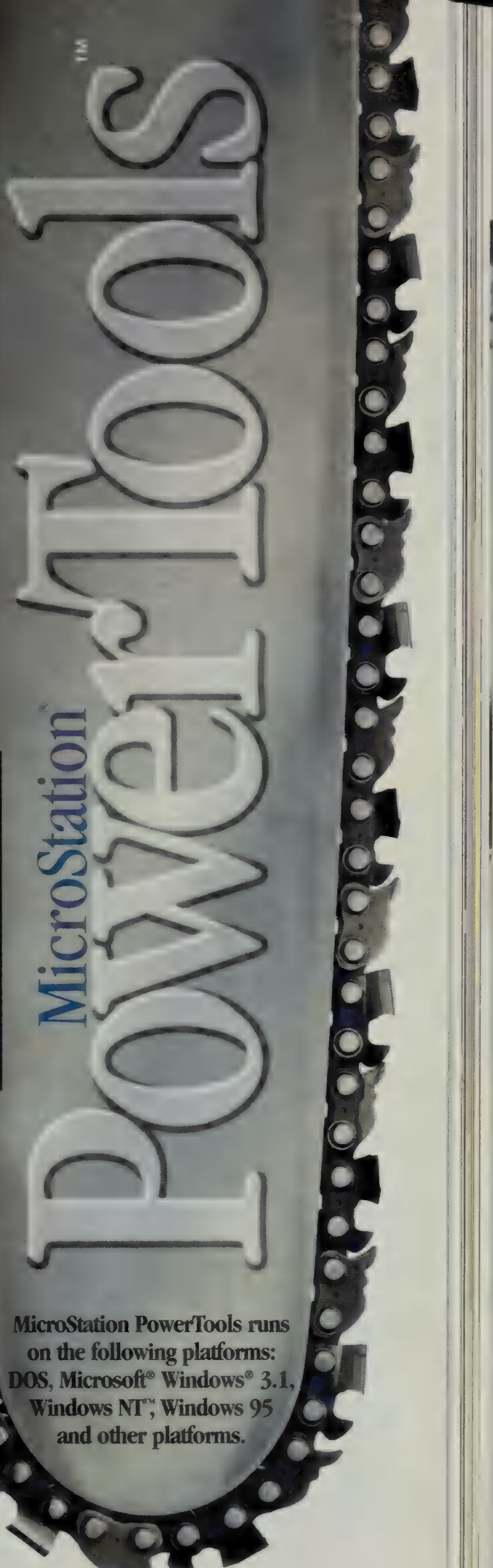

MicroStation PowerTools runs on the following platforms: DOS, Microsoft® Windows® 3.1, Windows NT™, Windows 95 and other platforms.

BENTLEY

The People Behind MicroStation®

Bentley Systems, Inc., 690 Pennsylvania Drive, Exton, PA 19341
610-458-5000 • 800-BENTLEY • FAX: 610-458-1060
Internet: family@bentley.com • WWW: http://www.bentley.com/

Outside the U.S. and Canada, check for specific product availability.

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[1] An independent test performed by Robert Martin of Value Engineering Associates comparing PowerArchitect and AutoCAD Release 13 to generate the same typical commercial architectural drawing. The same method of construction was used for both, as if the operator were at the same level of proficiency in both packages.

Circle 21 on inquiry card

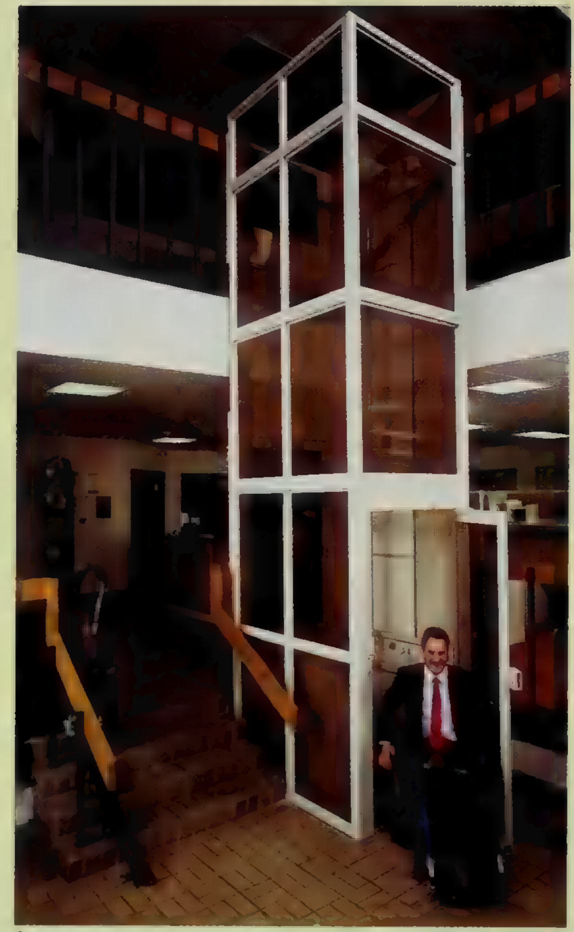
Elevator-Code Changes Make Access Easier

Revisions in local and national elevator codes are affecting both mechanical design and permitted uses, tending to make handicapped-access modifications more flexible and less expensive for many existing structures. For example, New York City has amended ANSI A117.1, the national code, to permit the installation of some types of residential elevators in other than private buildings, where necessary to make an existing structure accessible to physically disabled persons. Also, new Limited Use Limited Access (LULA) provisions will permit installation of large-capacity (about 1,400 lbs) residential-type lifts to meet ADA access requirements in many public buildings.

Under current codes, vertical platform lifts, available in models with up to 12 feet of travel, can solve access problems less expensively than an elevator, and much less obtrusively than a ramp. Architects should consult equipment manufacturers for options and lift features that help the equipment work with, not against, their surroundings. For example:

(1). An enclosure of painted steel and acrylic panels ties a floor-to-floor lift into its contemporary setting; this framework may be specified in any of 180 colors. For a more traditional environment (2), the hoistway was finished in painted drywall and given a wood-trimmed window. In a Fifth Avenue office building in New York City (3), lobby and elevator renovation involved the installation of a wheelchair lift that coordinates with the new finishes. Placing the motor inside the wall shrunk the footprint, and let the lift fit close to the wall. Equipment was specified painted black, and the control panel was faced with the same black stone used for the lobby floor. Custom stainless-steel railings backed with Plexiglass panels match the new elevator trim, and meet code requirements for a complete enclosure of the lift.

For many exterior applications, self-contained wheelchair lifts can be much less costly than a ramp. And long ramps can intimidate many disabled users: this entrance (4) would have required a ramp 36 feet long to handle the 31-in. rise. Customizing options include placing the call button flush into the [illegible] and [illegible] the style and color of the [illegible] the existing porch wall. [illegible] ■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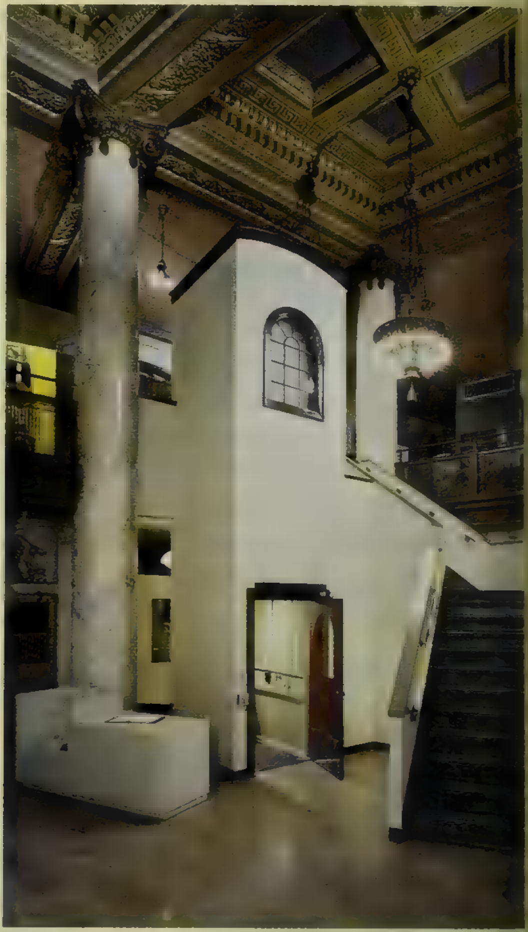
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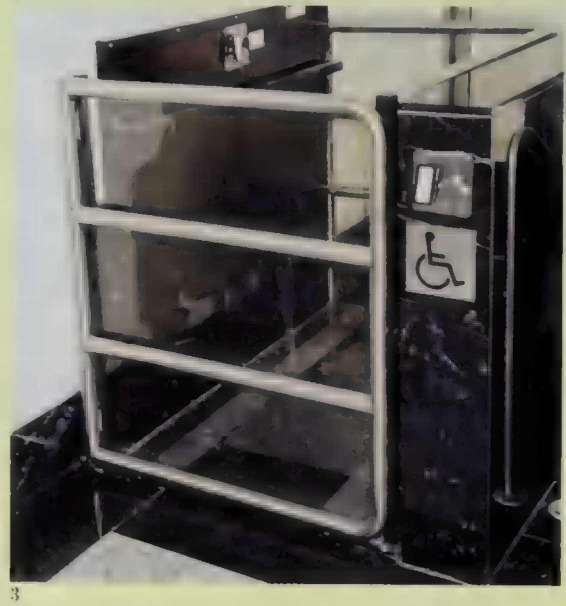
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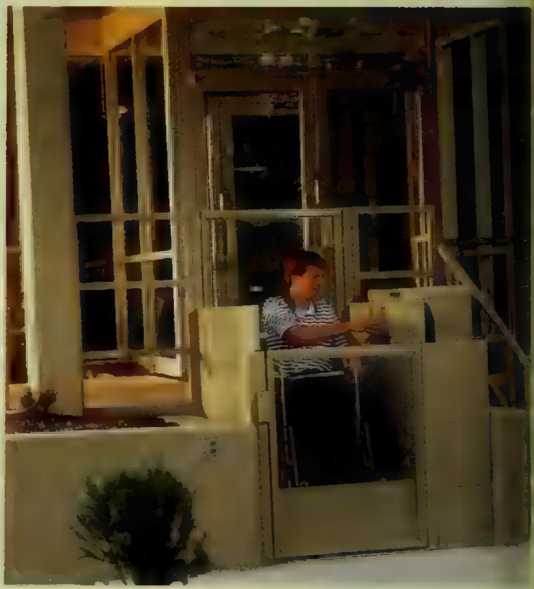
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1, 2, & 4—Access Industries, Inc., Grandview, Mo.
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3—Mobility Elevator & Lift Co., East Hanover, N.J.
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hout custom detailing. About 40 standard
ossed patterns are offered on a choice of
en finishes on three substrates: galvanized
stainless steel, and Muntz metal. Installa-
pictured illustrates stepped-edge-style
els and a square base treatment in satin-
sh stainless. 800/451-0410.
ms+Surfaces, Santa Barbara, Calif.

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terials are rated Class A, and are
ippable and scrubbable. Samples: 800/521-
0. Columbus Coated Fabrics, Borden
corative Products Group, Columbus, Ohio.

7. Wall textiles. New Xorel Two fabric
ands the range of color, texture, yarn
nier, and pattern options in this very
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port the growth of bacteria. Surfaces are
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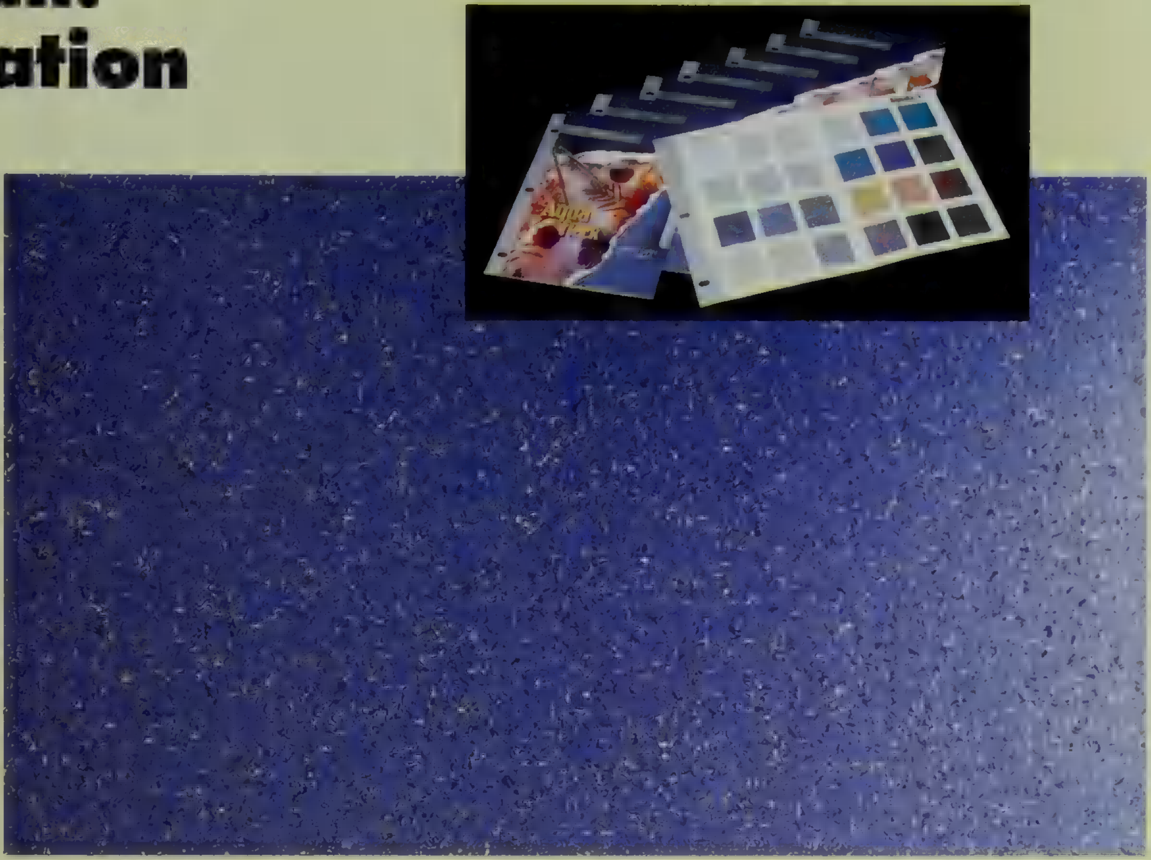
f-healing, the fibers rebound to close tack
l nail holes. Price: $24 per yd. 800/727-6770.
rnegie, Rockville Centre, N.Y. ■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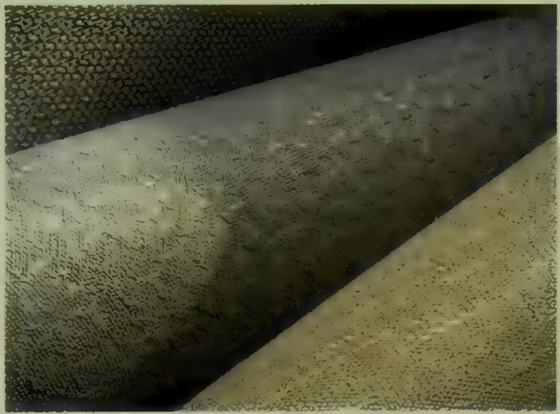
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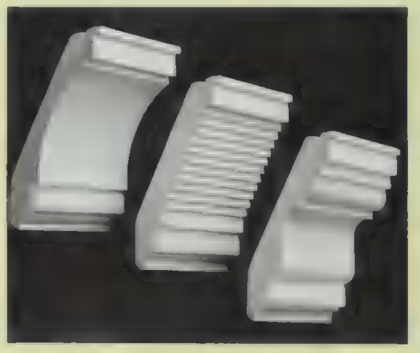
128. Unobtrusive bicycle stand
Made of steel tubing and plate, the Little Parker provides four-point bike support despite its small footprint; a swing-up locking-arm option increases security in public, theft-prone sites. Units may be wall- or surface-mounted, individually or linked in any shape with a bar and socket connector; can also be configured as a tree guard. 802/457-3275. Bike Track, Inc., Woodstock, Vt.

129. Architect's own
Architect Jim Evanson designs and manufactures seating, lounge furniture, and casegoods for a market that is half residential, half commercial (Sony and Brooks Brothers are recent clients). His Pierre Cabinet (pictured), with an Art Deco feel in African cherry and bronze details, is representative of new pieces in the collection. 212/777-6943. Evanson Studios, New York City.



130. Finishing touch
Originally designed to trim this maker's Metaphors lay-in coffered ceiling system, new perimeter moldings work with other suspended ceilings as well as drywall. The 4 1/2-in.-high poplar moldings have an offset edge at both top and bottom that creates a reveal at ceiling and wall, hiding gaps. 717/397-0611. Armstrong World Industries, Inc., Lancaster, Pa.

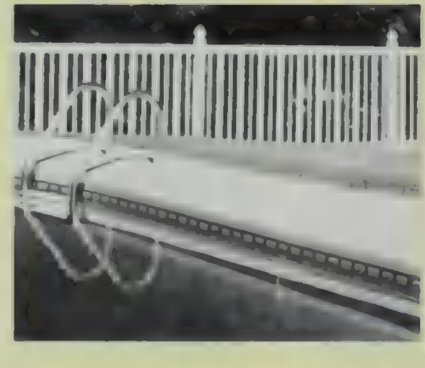
131. Computer desk for kids
Sturdy enough for school use, the Kin-der-Link white-birch table has a work surface that can be adjusted from 14-in. high, right for four-year-olds, up to 28 in., suitable for adults. Big enough to let two students work together, the unit easily fits through doorways, and comes complete with cut-outs for wire management and a surge protector. 800/545-4474. Skools, Inc., New York City.

132. CAD automation how-to
Bridging the Gap: AutoCAD to 3D Animation is a 60-minute-plus training video said to teach a simple, architect-developed process for creating high-quality presentation animations from AutoCAD files. Demonstrates how to bring a model into 3D Studio, apply materials and lighting, and do post production. $89. [illegible]1-1138. Corporate Image Video, Albuquerque, N.M.

133. Storm-proof cedar shing
Exposed to winds of 120 mph duri the ASTM E-330 uniform uplift te this exterior sidewall panel system meets BOCA's wind-suction code (ASCE 7-93), and, correctly install is approved for use in jurisdictions now requiring high-wind resistanc including Florida and South Caroli Design and specification packet: 800/521-9523. Cedar Valley Shingl Systems, Hollister, Calif.

134. Commercial wood floori
A new line, WearMaster wood floor ing has an acrylic surface said to survive 25 years of traffic even in retail and institutional spaces such hospitals. Floor comes in 11 color options and oak, maple, and hickor woods (maize-color stain is shown here on maple); is Class B rated; a meets ADA slip-resistance guideli for level surfaces. 214/931-3100. Bruce Hardwood Floors, Dallas.

135. Retractable insect screen
European-style retractable screen self-store in permanent, decorative housings less than 2-in. deep, and easily rolled out and latched in plac when needed to form a tight-fitting barrier against insects. Screens co in door and window sizes for interi or exterior mounting, including lar units for French-style doors and patio enclosures. 800/782-7009. Rol Star, Fort Lauderdale, Fla.



136. Vinyl pool fencing
Made of low maintenance vinyl, Bufftech fencing has been redesig to meet all the rail spacing, picket placement, and gate and latch requirements of the most recent BOCA pool-enclosure code. Availa in over 25 styles suitable for pool safety, fences also meet SBCCI an CABO codes. 800/333-0569. Buffte Buffalo, N.Y.

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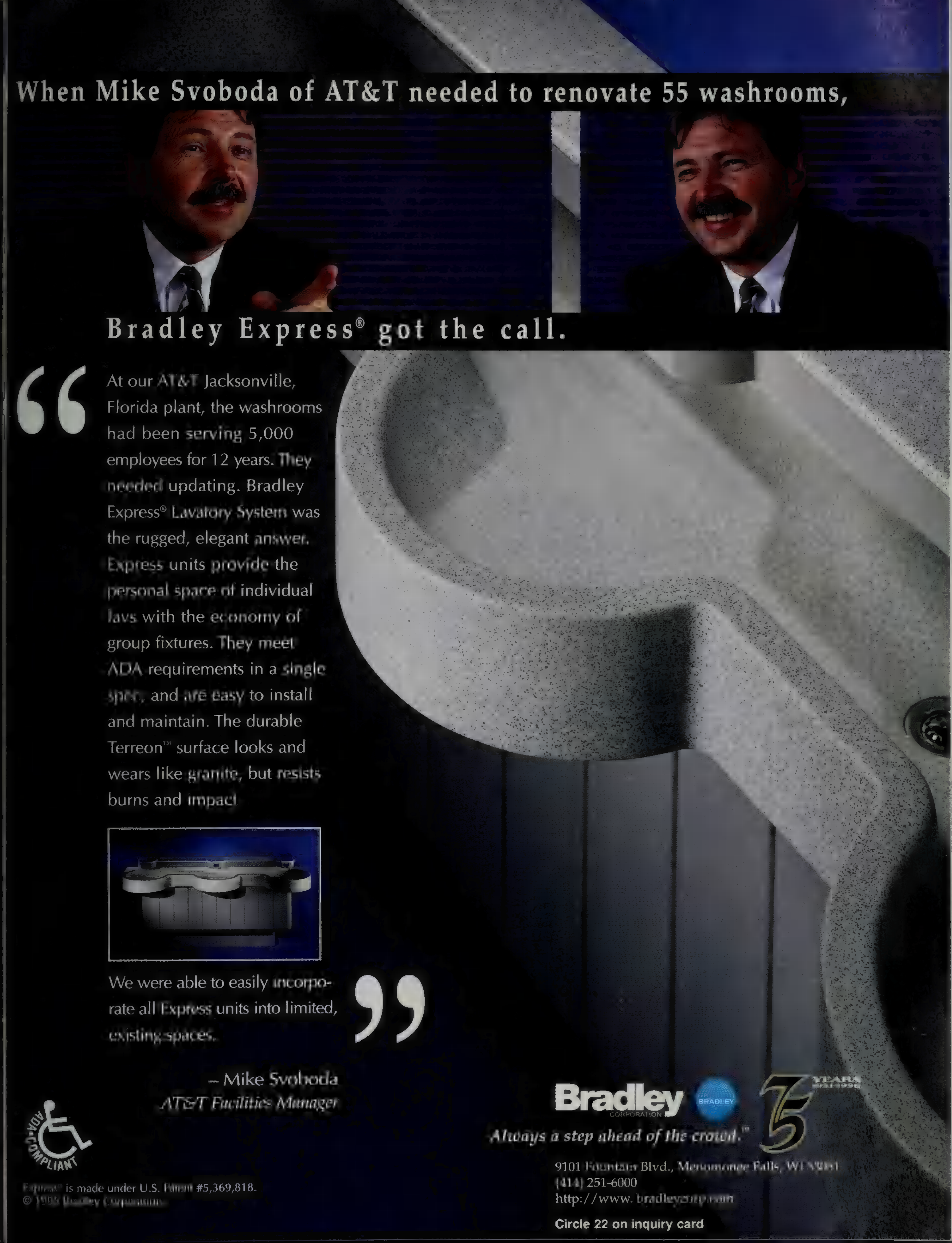

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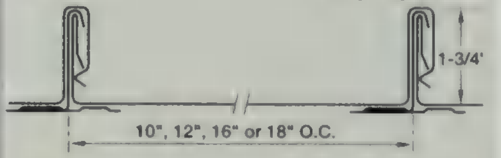

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Orono City Hall
Architect: Boarman Kroos Phister Rudin & Assoc.
Roofing Contractor: Vohnoutka Roofing & Sheet Metal Co., Inc
Color: Sandstone

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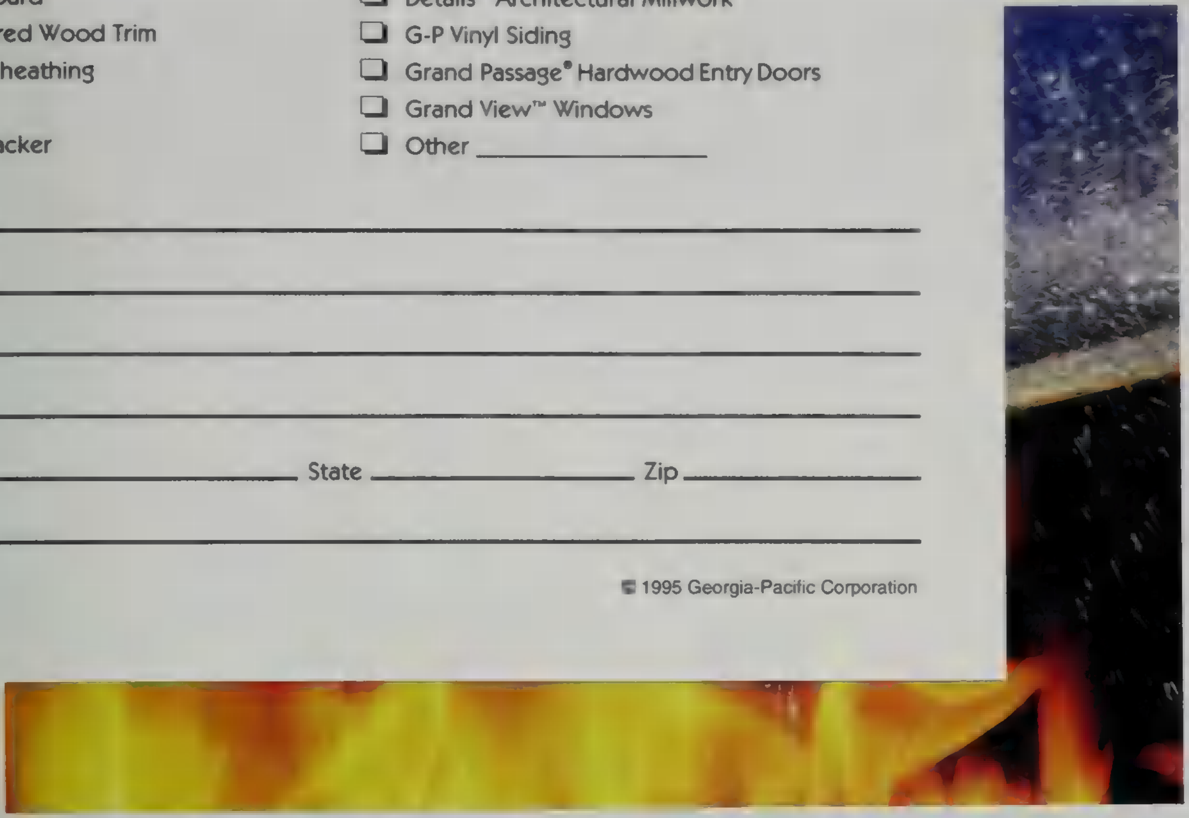

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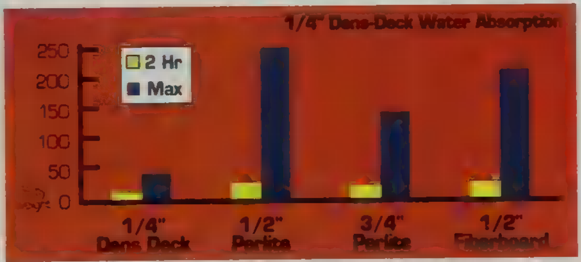

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ARCHITECTURAL RECORD 2/1996

Building Types Study 734/Adaptive Reuse

This renovation and adaptive reuse Building Types Study is the fourth that RECORD has published in the past three years, and for one very simple reason: This kind of work is becoming a staple in architects' offices.

The evidence is not anecdotal. F.W. Dodge statistics show that as of October 1, this category of construction activity accounted for 25 percent of all work worth over $1 million on all types of non-residential buildings—a whopping $27.6 billion. U.S. Department of Commerce statistics, which include projects under $1 million, show the dollar volume of renovation and new-construction activity running virtually neck-and-neck.

The areas of renovation charted as most active by Dodge were: office ($6.2 billion), educational ($4.1 billion), stores ($3.5 billion), health care ($2.6 billion), manufacturing ($1.6 billion), amusement ($1.4 billion), and governmental facilities ($1.2 billion).

This Building Types Study covers a broad range of buildings, from the institutional such as the Brearley School (page 76) to office and commercial buildings, which include Salick Health Care offices (page 62), the National Minority AIDS Council Headquarters (page 96), a multi-tenant complex, the Showers Center (page 92), as well as the remodeled Gilmore Bank (page 72) and Hewlett-Packard Company's Building 15 (page 84).

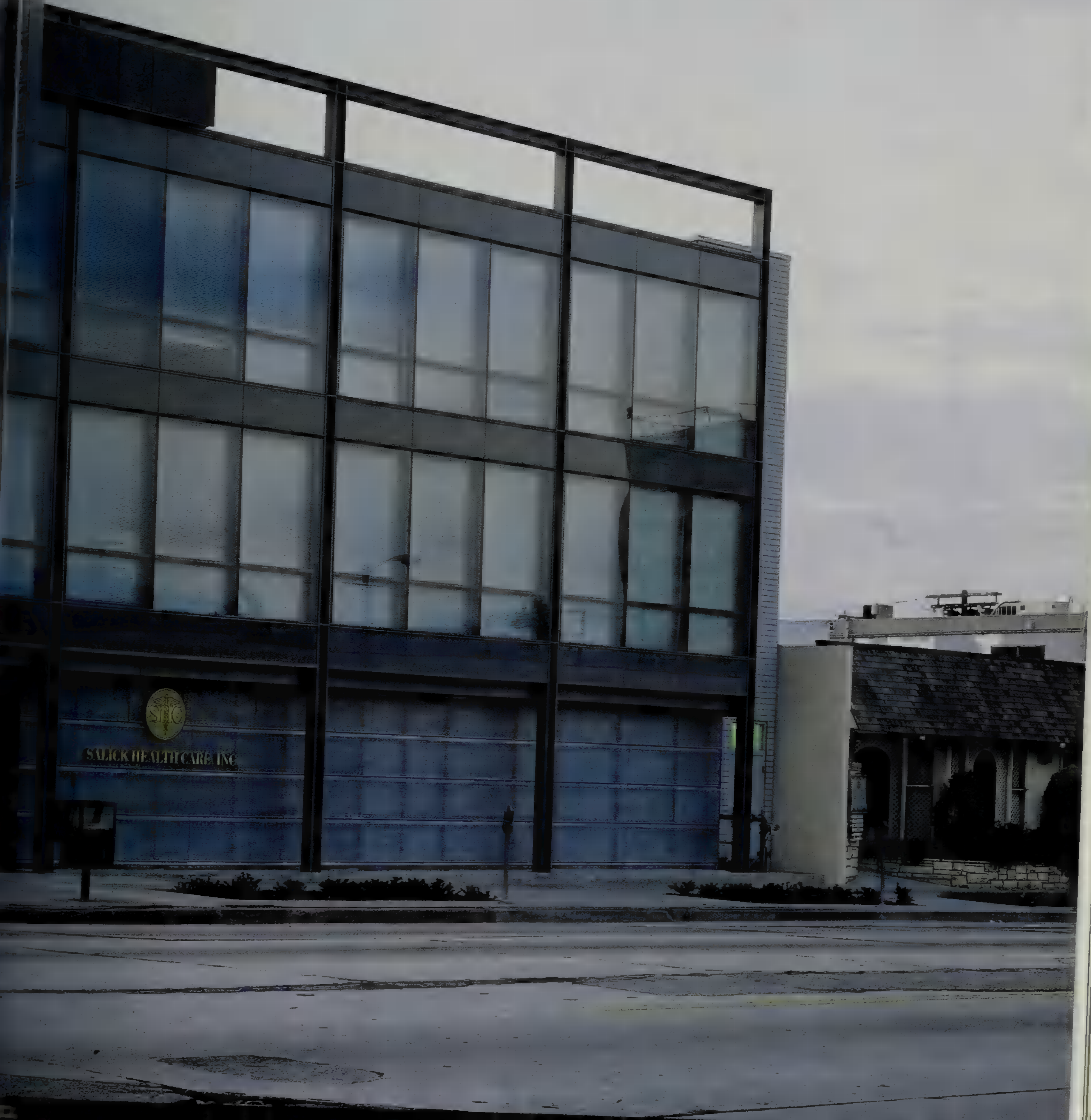
Three buildings renovated for entertainment and educational purposes also figure highly in this issue: the New Victory Theater (page 66), the Wolfsonian Museum (page 86), and the Mark Taper Center/Inner City Arts complex (page 78).

anufacturers' Sources
sted on page 105

On the Mend

Morphosis updates an early 1960s office building.

Salick Health Care
Los Angeles
Morphosis, Architect

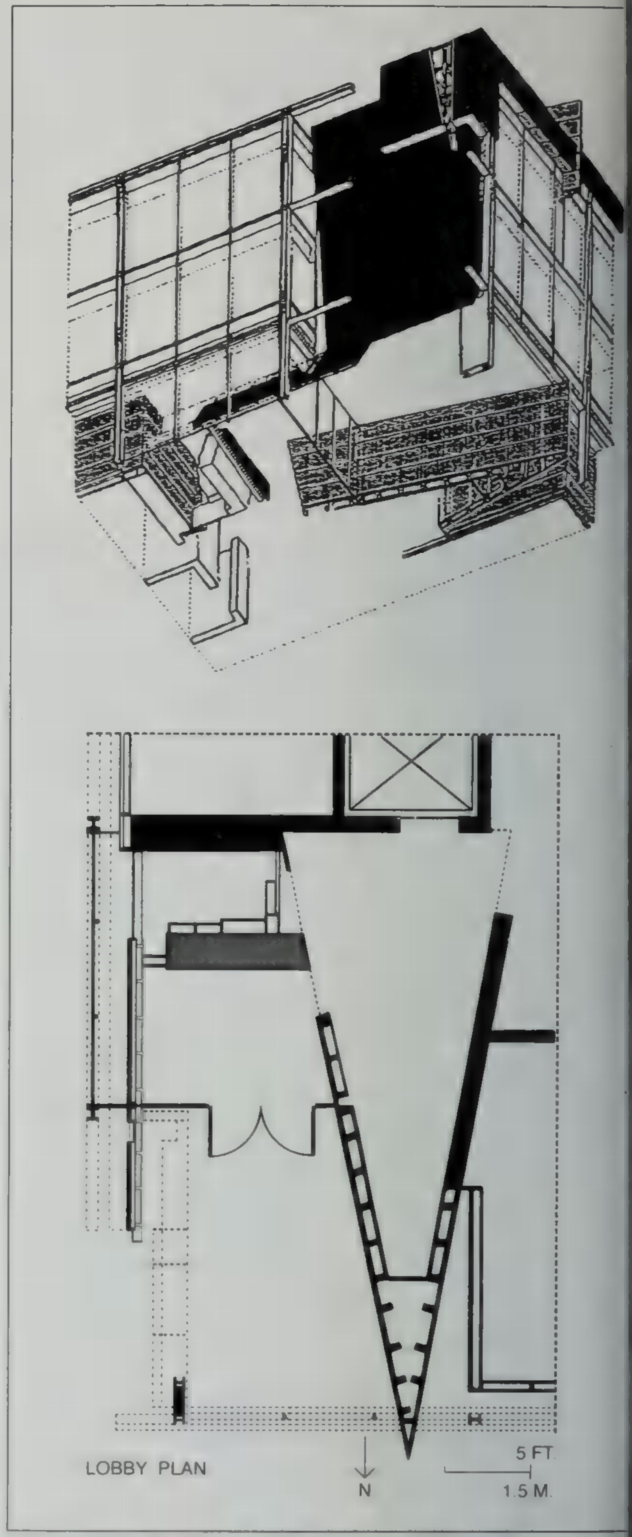


Repeat clients are not only valuable to an architectural practice monetarily, they are also a sign of its success in satisfying program requirements. While many architects in the Los Angeles area envy the ongoing patronage of Eric Moss by Culver City developer Frederick Norton Smith [RECORD, July 1994, pages 62-69], Thom Mayne has found *himself* a patron of sorts in Dr. Bernard Salick, owner of a chain of cancer-care and dialysis centers, who has now hired Mayne's firm, Morphosis, for the third time. With government cutbacks on health-care financing continuing, Salick and Mayne prove that, in the private sector at least, measured doses of creativity can resuscitate the ailing image of health-care providers.

After working with his client on an out-patient treatment facility at Los Angeles' Cedars Sinai Medical Center, Morphosis was commissioned to remake a bland office building on nearby Beverly Boulevard into Salick's headquarters [RECORD, January 1992, pages 130-135]. This time, the company has expanded across the street to include a more modest structure now cloaked in another Morphosis-designed wrapper. The first office building stood out on the major east-west thoroughfare even before its makeover because of its towering 72-foot height in an area of zoning rollback that prohibits new structures over 45 feet; but this second building, completed in the early 1960s and painted pink and blue, at first had even less to offer.

At three stories with 22,000 square feet of office space and 5,800 square feet of parking, it now embodies the role of annex with a new curtain wall around an otherwise unremarkable steel and concrete-block structure. A canted granite wall at the corner marks the street-front entrance and echoes the entry sequence of the other Salick building diagonally across the street. Overlapping grids of glass, steel, and granite, and layers of opaque and transparent surfaces give a new, bold presence. Glass on the west and south facades (not shown) was silkscreened to reduce glare, and the clear glass on the east and north sides (previous pages) has a UV-coating that complies with California's stringent energy-conservation codes.

Mayne says modest-budget office-building renovations provide limited opportunity for creative expression (this project was done for $1.5 million), but all that may change as he increasingly relies on computer-aided design, which allows him to more fully engage in three-dimensional studies of complex overlapping geometries—his "architectural operations." Project architect Kim Groves reports that this building is the last one in the office to be "drawn by hand," and so it marks the dawn of a new era for the firm—whether of increasing complexity or simplicity only time will tell. *Karen D. Stein*



© Tom Bonner photos

Drawings show the overlapping grids of the entry corner and the plan of the lobby (top right). Morphosis designed the cherry-wood reception desk (bottom right).

Credits
Salick Health Care
Los Angeles
Architect: *Morphosis—Thom Mayne, principal; Kim Groves, project [illegible], [illegible] Reich, project designer; John Enright, Frank Brodbeck, Patrick Tighe, Mark Sich, Lars Bleher, Andreas Schaller, Kaspar Baumeister, Ming Lee, and Kinga Racon, project team*
Engineers: *Joseph Perazzelli (structural); Mel Bilow, Dave Lowe (mechanical)*
General Contractor: *Timothy Sinta with Construction Management and Supervision*

NEW VICTORY
THE NEW VICTORY THEATER

imes Square ictory

The New Victory Theater
New York City
Hardy Holzman Pfeiffer Associates, Architect

n its opening as Oscar Hammerstein's initial showcase in 1900, en it was called called The Republic, The New Victory Theater has n many firsts. It is the first performing-arts space built in New k City to survive for active use today and the first built in the 's current theater district around Times Square. Its $11.4-million ovation for a very different theatrical crowd, as well as modern les, required far more than simple restoration, however.

part of a recent effort to upgrade the long run-down Times Square trict, The New Victory Theater two months ago became the first itimate stage to reopen in a nine-theater revival spearheaded by nprofit New 42nd Street, Inc. This organization operates on a com- ation of public and private monies, including $14 million ntributed by a private developer back in the headier 1980s, when ice towers were included in the renewal plan. But where white-tie diences once arrived by limousine, the new audiences are school ldren arriving in buses. In its latest incarnation, the Victory is w York's first theater devoted exclusively to young audiences. It ened with a Canadian circus and currently features a Metropolitan era Guild production based on the experiences of a football player.

nen Hardy Holzman Pfeiffer's partner-in-charge Hugh Hardy rived on the scene, he found an archeological and functional puzzle. home to both Hammerstein and David Belasco's initial produc- ns, historic importance clearly called for restoration. But to which presario's vision? Lengthy probing found much of the earlier detail ll existed under layers of latter-day alterations for, among other es, Minsky's Follies and a porno cinema. After preparing an haustive existing-conditions report, Hardy, in concert with his ents, decided on Belasco's interior and Hammerstein's facade. The ginal grand stair projecting onto the sidewalk was long gone and quired a variance to replace it on city property. Because the audito- um-style building had never had a lobby, a new one was partially rved out of the house on two levels as unobtrusively as possible verleaf) and partially drilled from the solid rock underneath, while refully shoring ancient foundations. Digging to replace the stair oduced not only a passageway to remove all excavation rubble, but ace for previously lacking rest rooms. The Victory also lacked a ar stage door (the building was locked in by others). Nor was there y backstage. Removing the rear buildings and replacing them with new wing solved both problems (see overleaf). *Charles K. Hoyt*

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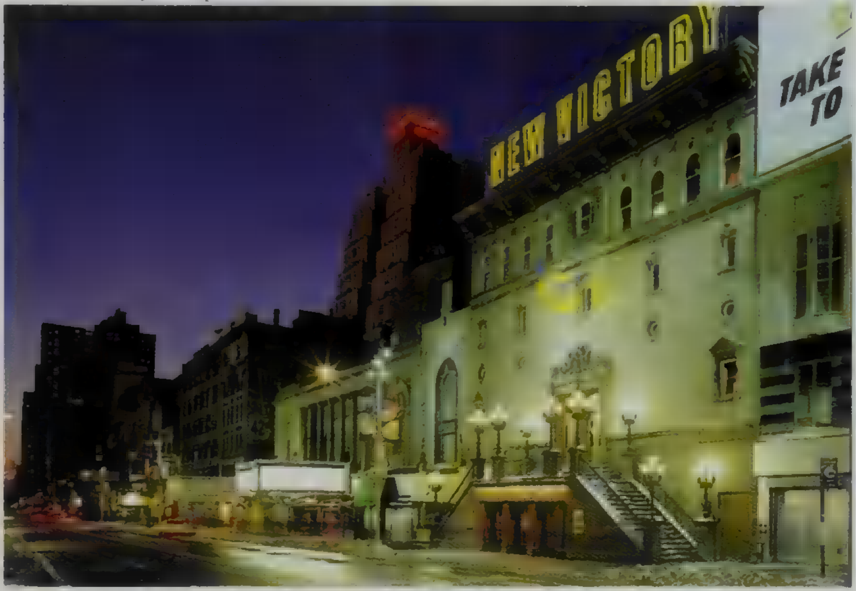
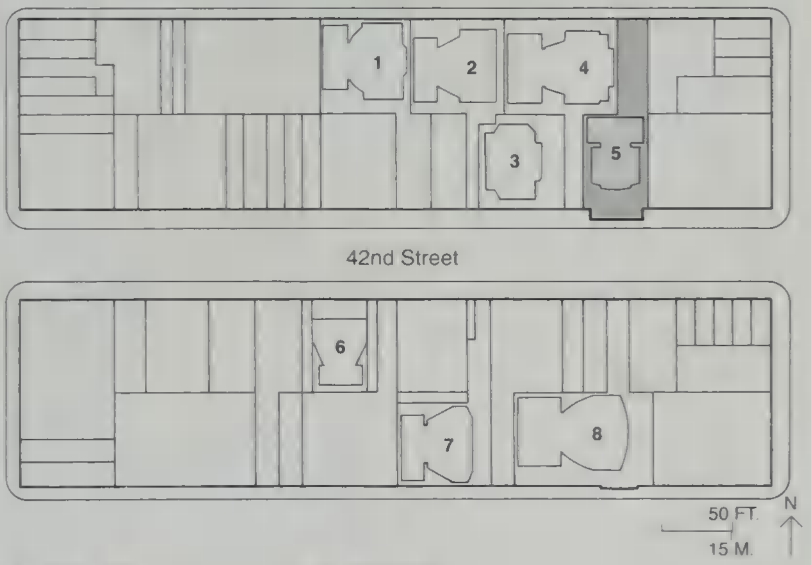
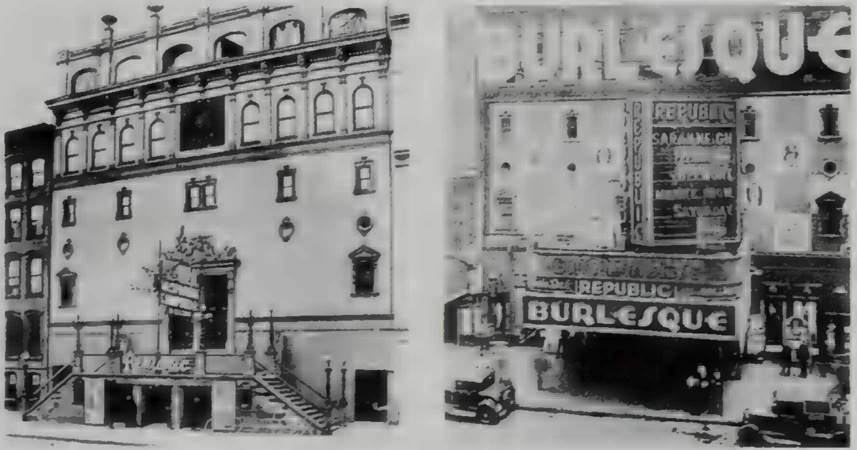
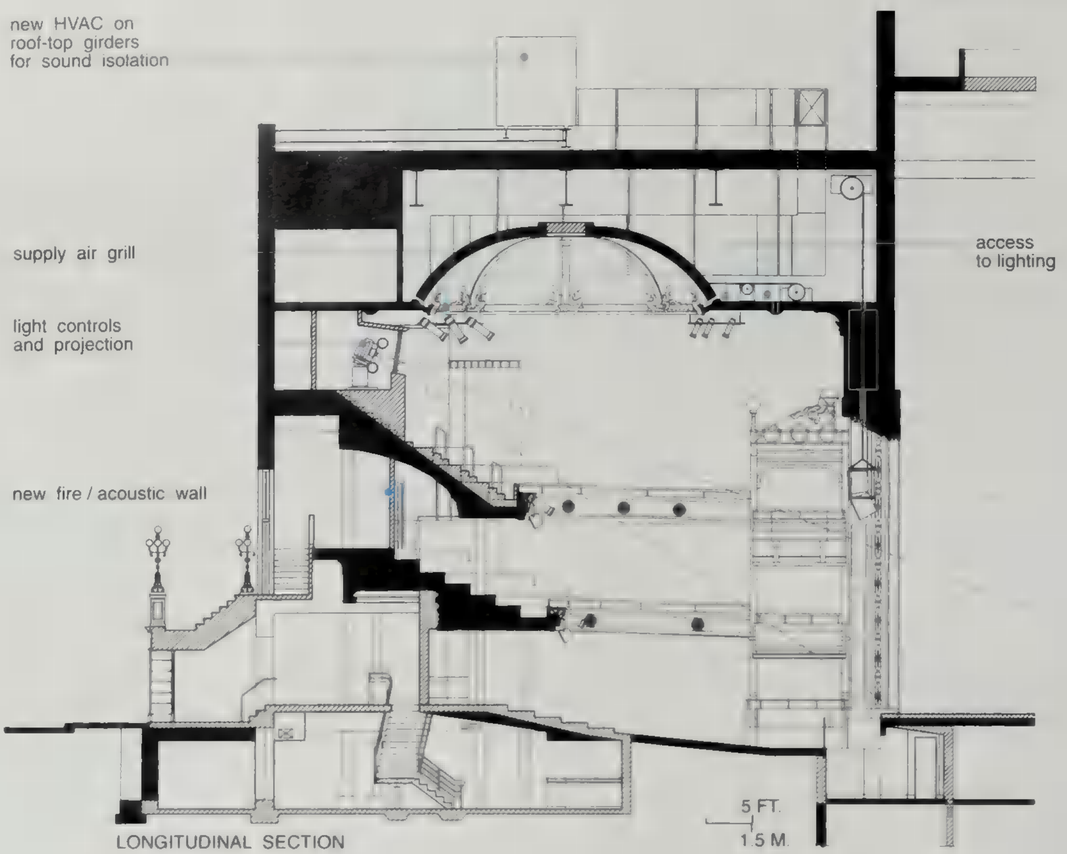




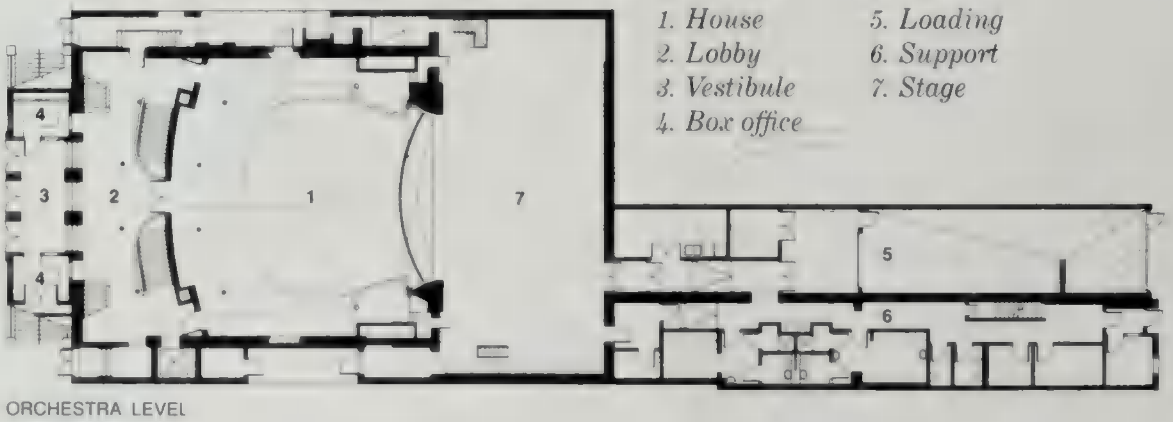
1. Selwyn
2. Apollo
3. Times Square
4. Lyric
5. Victory
6. Empire
7. Harris
8. New Amsterdam



Leading 42nd Street's ups and downs, The New Victory originally mimicked an elegant small European opera house inside (overleaf) and out (right). As times changed, so did its appearance (far right). As restored (top and opposite), it is the first one completed of many nearby theaters being renewed (site plan), including the New Amsterdam, also by Hardy Holzman Pfeiffer, for Disney.

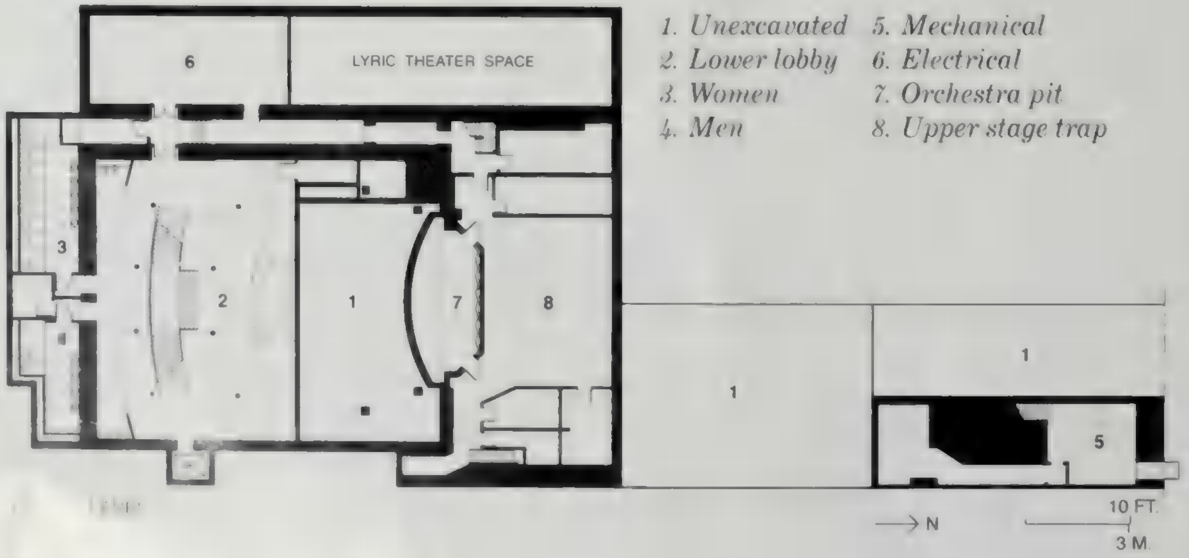


LONGITUDINAL SECTION



1. *House*
2. *Lobby*
3. *Vestibule*
4. *Box office*
5. *Loading*
6. *Support*
7. *Stage*

ORCHESTRA LEVEL

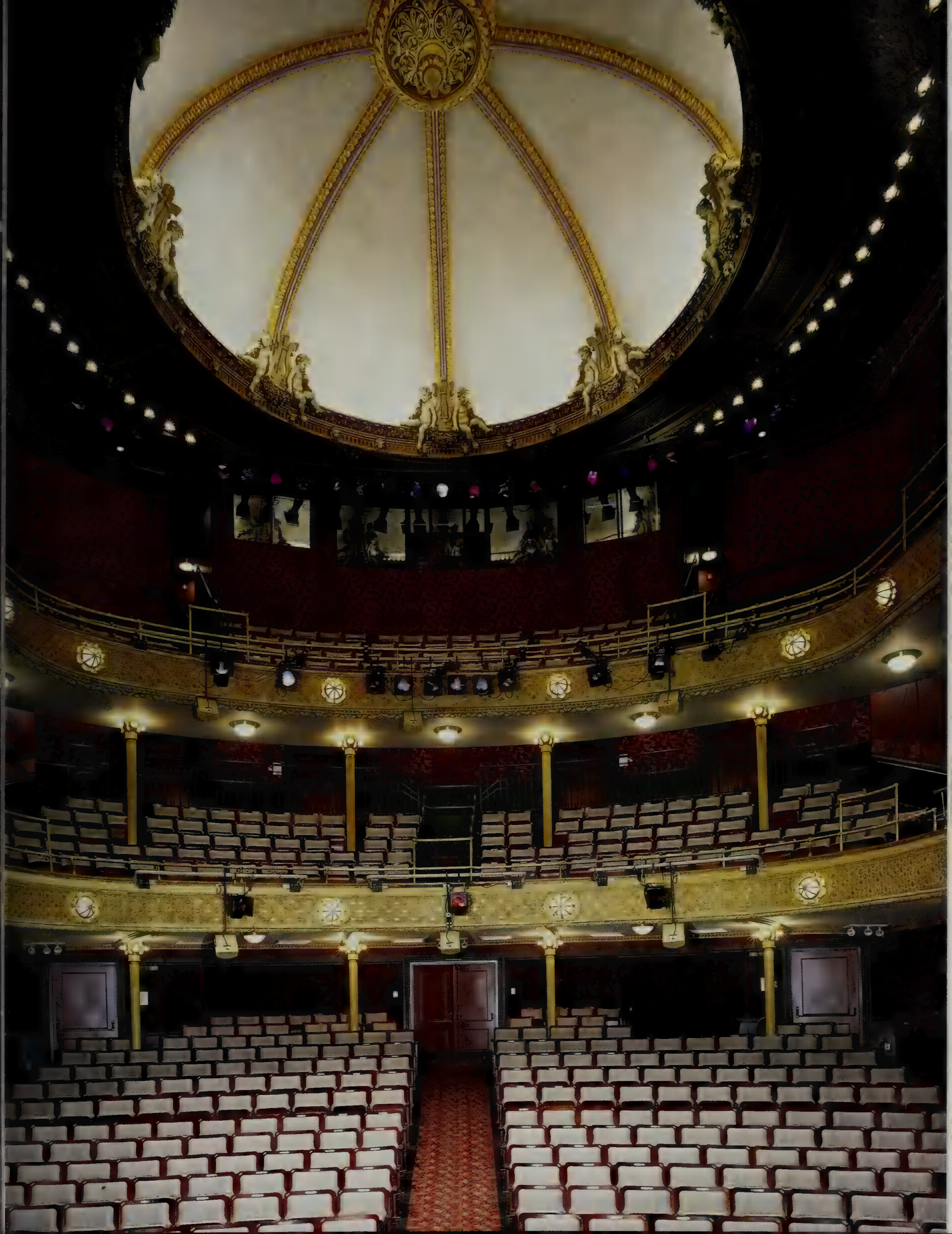


1. *Unexcavated*
2. *Lower lobby*
3. *Women*
4. *Men*
5. *Mechanical*
6. *Electrical*
7. *Orchestra pit*
8. *Upper stage trap*

Among The Victory The
problems for modern us
were lack of a lobby; ins
cient number of rest roo
and lack of handicappe
facilities, sound and lig
control, and adequate h
To provide a lobby, as w
control street noise thro
the entry, the architects
a sound-proof wall into
original house (shaded i
section) while maintain
as much of the historic c
acter as possible. New st
lead down to a much lar
lower lobby.

A new elevator gives han
capped access to seating
the sides of the sound- a
lighting-control booth o
top balcony. From the b
an operator lowers and
raises lighting and spea
mounted on suspended l
Subtracting space for th
booth and lobby reduced
seating capacity from 70
to 500.

Reproduction seats were
made by the manufactu
of the originals using en
panels from the old mol
Upholstery is embossed
with the Belasco "B." Ne
air-handling units were
mounted on the roof. A g
of independent girders g
them vibration insulati
New vents and air intak
were incorporated into t
original decoration in th
dome (section). The new
wing to the north (plan)
tains dressing rooms, pr
and scenery workshops,
storage, a truck pull-in,
loading dock.

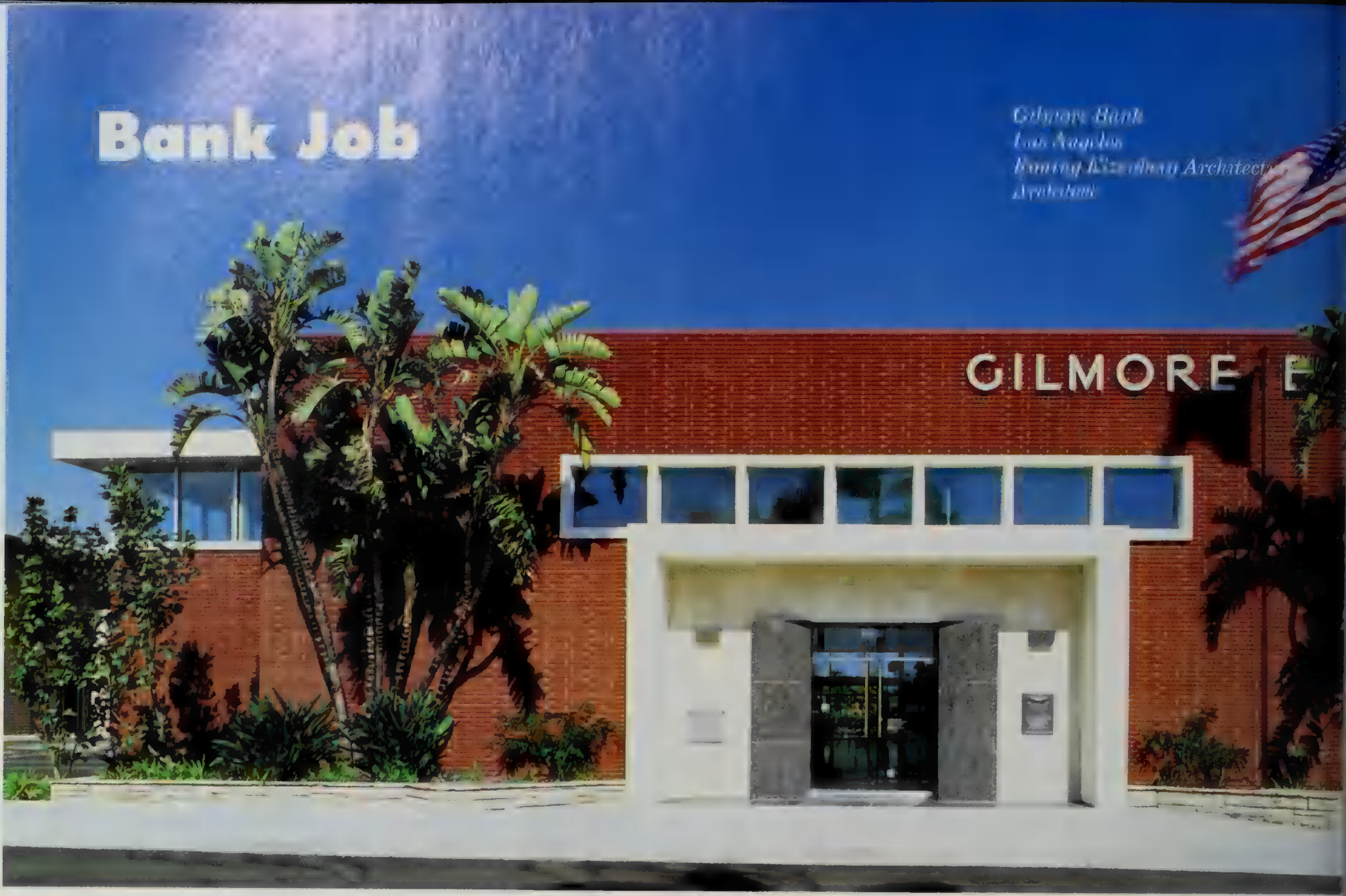


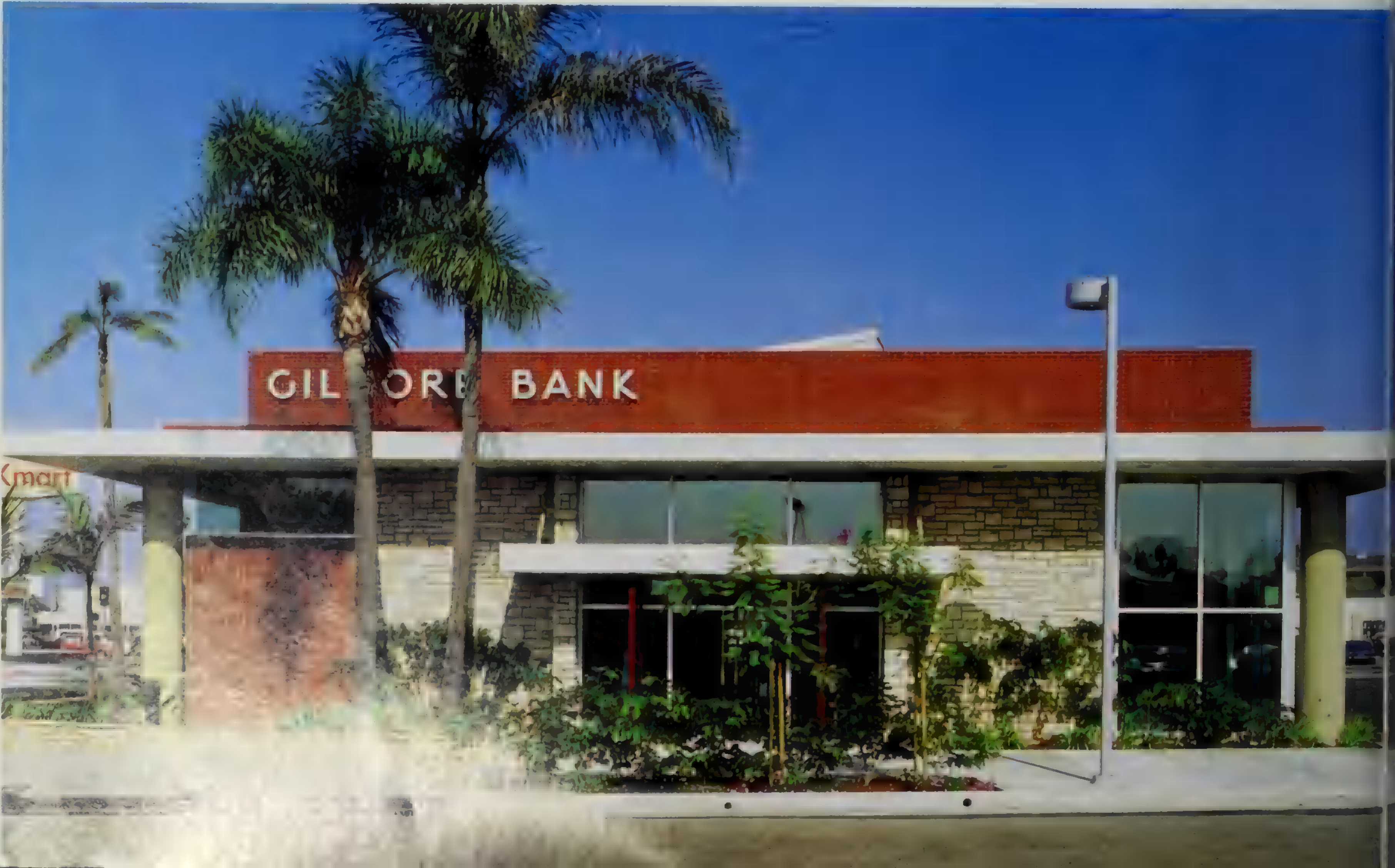
Hardy Holzman Pfeiffer's restoration of the house is met ulous down to the last detail of its 1902 appearance—except fo the new wall, which cuts acros the entrance side to create a lobby, and a light- and sound-control booth. Here, the architects have made a straigh forward modern addition. Sta from the lower lobby (bottom left) illustrate the point.

Credits
The New Victory Theater
New York City
Architect: *Hardy Holzman Pfeiffer Associates—Hugh Hardy, partner-in-charge; Stewart Jones, project manage Raoul Lowenberg, constructio architect; Douglas Stebbins, project architect; Kristina Walker, interiors; Massoud Ghassem, David West, Daniel Barrenchia, design team*
Engineers: *Robert Silman (structural); H. C. Yu & Associ ates (hvac, plumbing, electrica AKF (mechanical, electrical); Jaffe Holden Scarbrough (acoustics); Fisher-Marantz (architectural lighting).*
Consultants: *Jules Fisher (theater); Building Conservati Associates (historic preservation); Boyce Nemec (security)*
General Contractor: *F. J. Sciame Construction Compan*

Bank Job

Gilmore Bank
Los Angeles
Koning Eizenberg Architect
Architect





ver pretended to be doing *historic* renovation," says Julie Eizen-
of her firm's careful, and, at times, seemingly invisible remodel
40-year-old Los Angeles bank. Opened in December 1955,
ore Commercial & Savings Bank dedicated itself to "serving the
nunity with 'home town' friendliness and 'big city' stature,"
rding to its mission statement. Over the years, the one-branch
withstood the pressures of financial-institution mergers and
isitions, staying independent and self-sufficient. While its core
es remained unblemished over time, the building's general
eanor had gradually grown shabby with use. Enter Santa
ica-based Koning Eizenberg Architecture.

itects Hank Koning and Julie Eizenberg have built a reputation
heir own brand of Modernism, which draws on local vernacular
es ranging from Irving Gill to the more anonymous clapboard
galows of Southern California [RECORD, April 1995, pages 88-91].
r's is an architectural modesty well suited to the low-key setting
e bank, which is adjacent to another Gilmore family development:
Farmer's Market, a casual sprawl of utilitarian shed structures. A
e of renewal pervades, but distinct signs remain elusive, and the
itects like it that way. "We were hired because we're in sync with
vision of the place," explains Eizenberg of the firm's on-going
ciation with the A.F. Gilmore Company. (Previously, the architects
gned a new gate and 200-square-foot security office for the
ket—jobs many architects might pass on.)

le the bank was eager to maintain its identity, it was equally criti-
o the project, and to the architects' scheme, that it provide
ition-conscious customers with uninterrupted service. Tellers and
officers swapped sides of a once-narrow central corridor and a
wall of maple veneer and marble teller stations—its design based
riginal details—was prefabricated in sections and installed at
t and over the weekend (following pages). The wall is modified in
ew incarnation, so tellers now face clients across a lower and
der "window," more in keeping with the accessible image of the
k. Loan officers, released from the confines behind a matching
ding wall, are now spread out along the south side of the building
ccupy an open office area interspersed with living room-like furni-
groupings.

architects captured additional space in the corners of the building
ccommodate an elevator that complies with current code require-
nts, and created a conference room. Sun-faded wood panels
ning the west entry were replaced by terrazzo and an entry was
ed on the east side, where there is additional parking. The most
ificant change, however, is visible only on the inside: five new rein-
ed fiberglass skylights were cut into the existing coffered ceiling.
ording to the architects, the addition of skylights and exterior
te-painted light shelves on the east (bottom right) and south
osite bottom) facades, which bounce light inside and reduce the
d for supplemental lighting, and the replacement of existing glass
insulated low-E glass, contribute to an energy saving of about 50
cent. The notion of savings even went as far as exterior signage:
building is now, more simply, Gilmore Bank. *Karen D. Stein*

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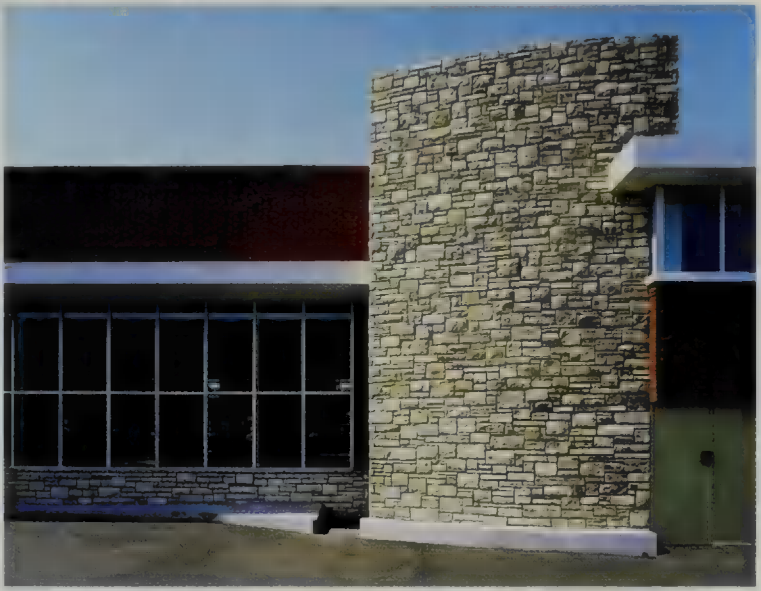
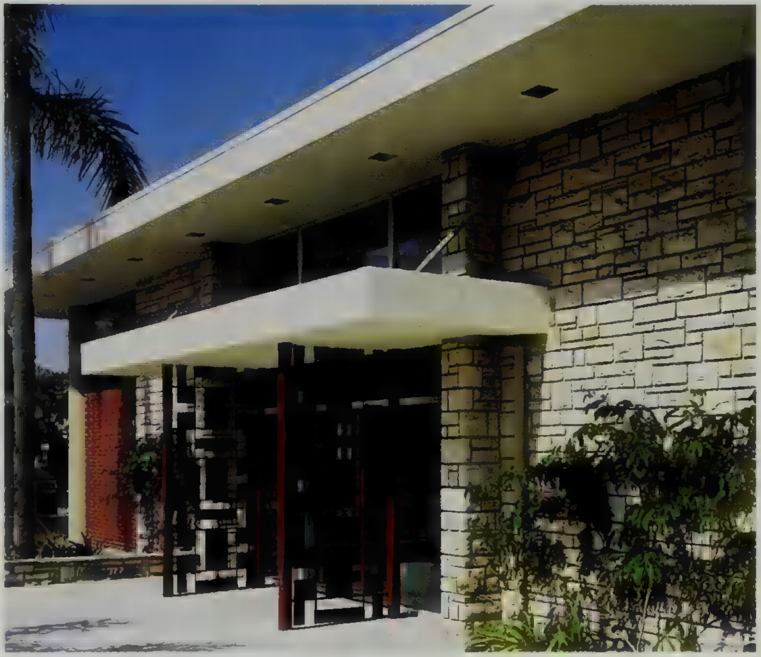
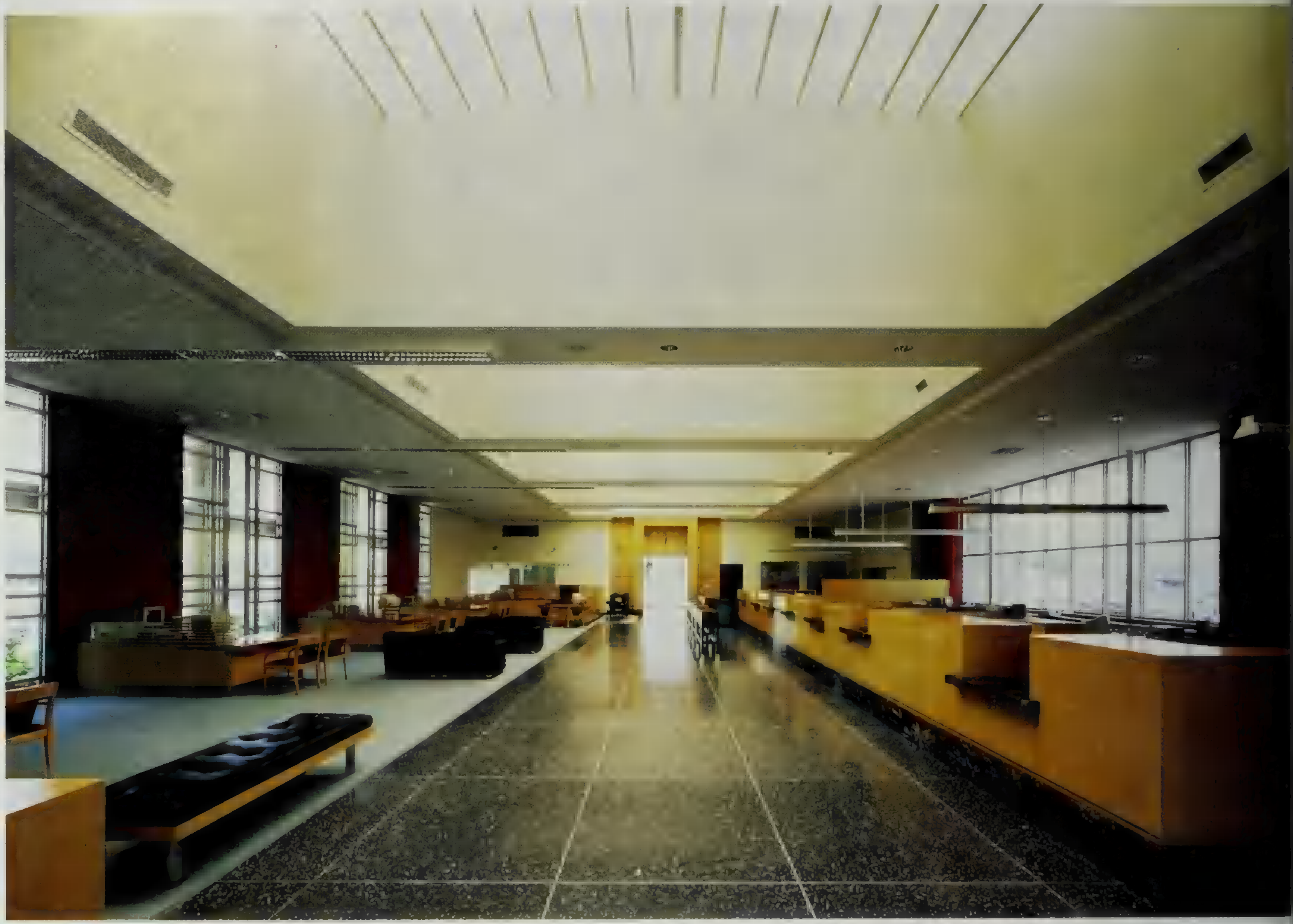
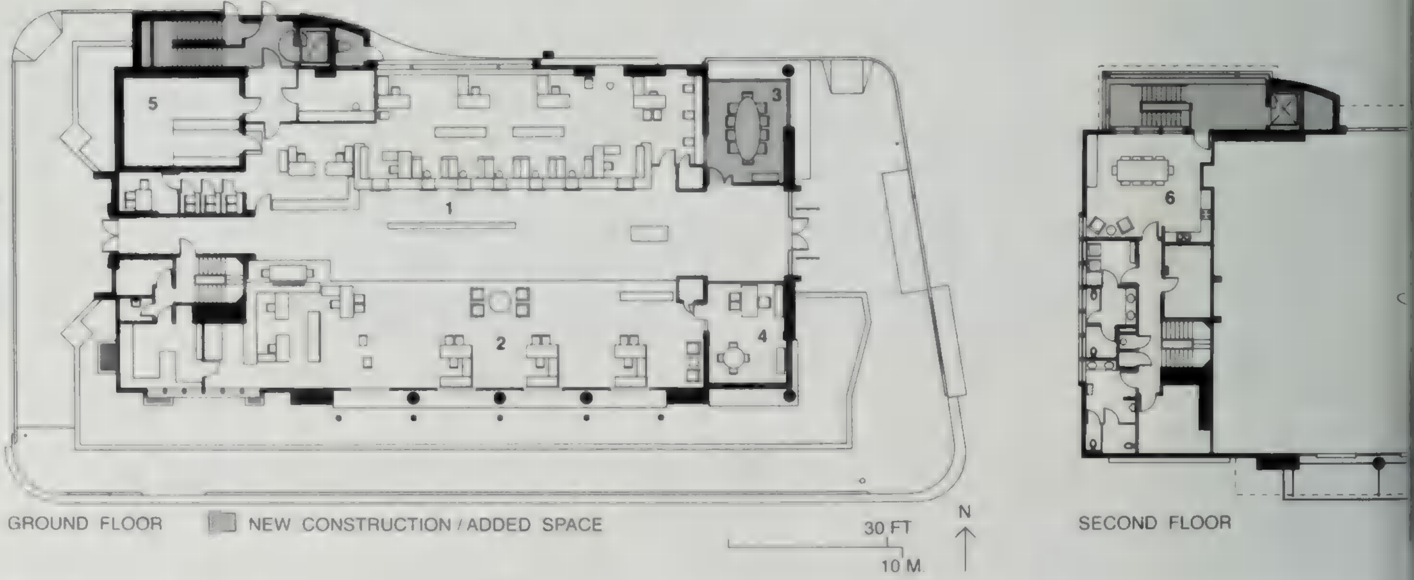


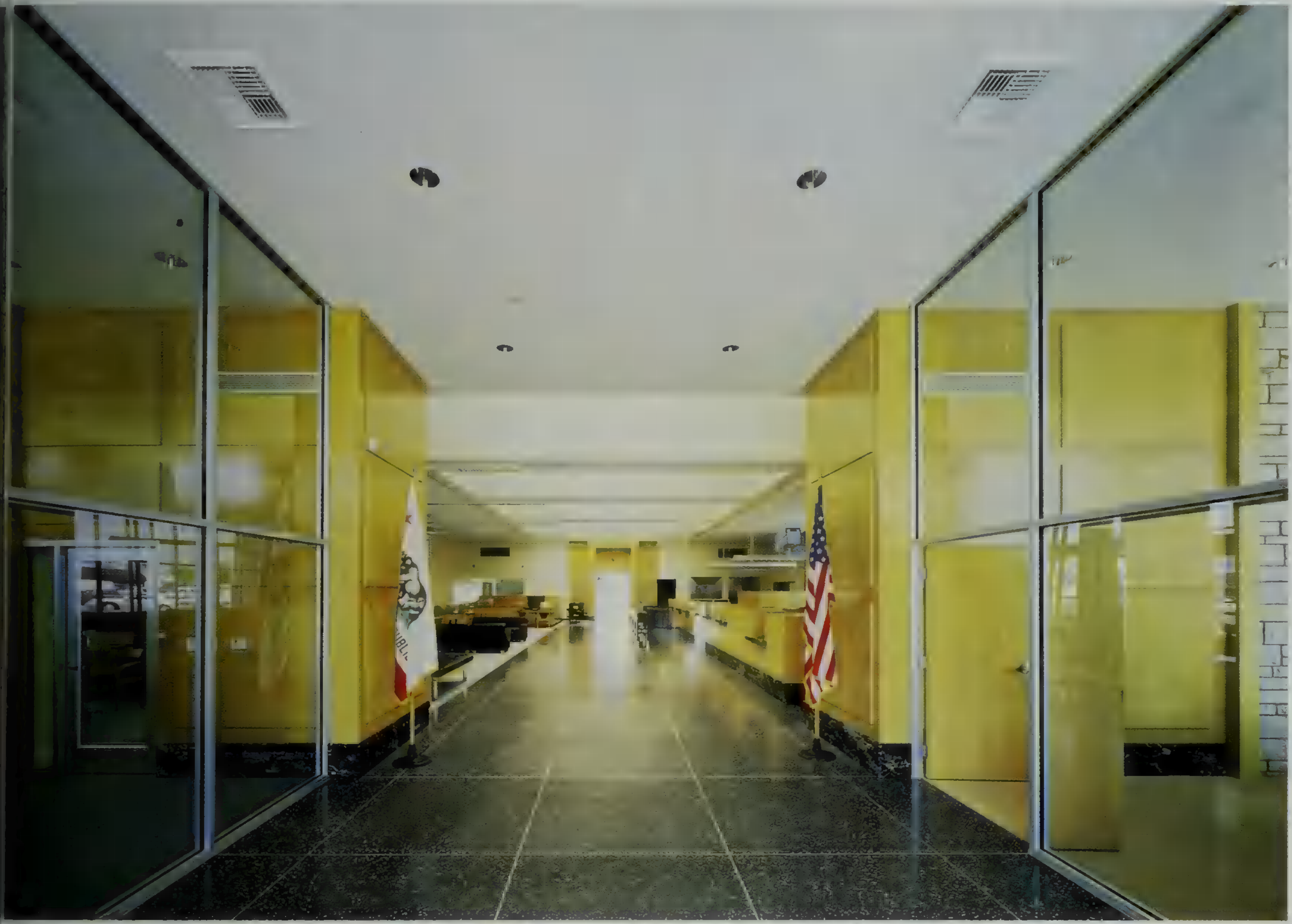


Distinguishing old from new is not easy—the architects' goal. A new sandstone wall connects the existing structure (left in photo top) with a sliver addition—an elevator and hall linking back-of-bank functions with a second-floor employee cafeteria that meet ADA criteria (right in photo top). New entry grilles echo original details (bottom).



1. *Bank tellers*
2. *Loan officers*
3. *Conference room*
4. *Bank president*
5. *Vault*
6. *Employee dining*





New exterior window walls match the original design, but contain more energy-efficient insulated glass panes (opposite and left). Skylights cut into the shed roof filter daylight through wood rafters. Yellow-stained maple cabinetry, based on original detailing, enhances the sense of a sunny interior space. Terrazzo flooring and marble teller counters and baseboards were selected for their durability.

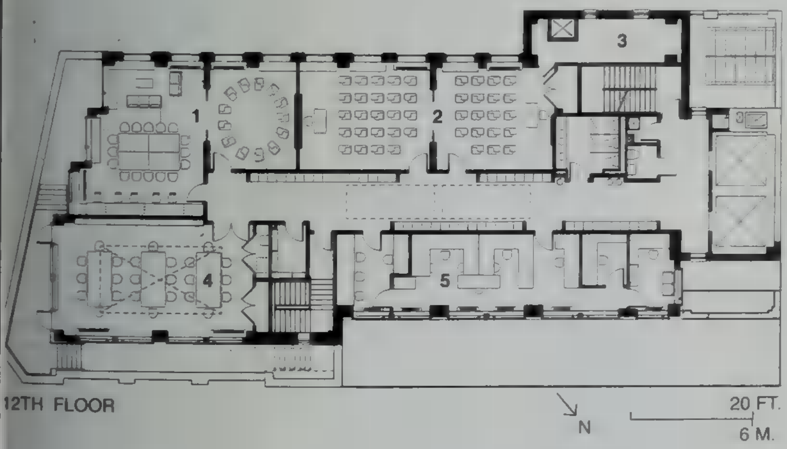
Credits
Gilmore Bank
Los Angeles
Architect: *Koning Eizenberg Architecture—Hank Koning, Julie Eizenberg, partners; Tim Andreas, project architect; Marc Schoeplein, project manager*
Engineers: *Parker Resnick (structural); Nikolakopulos + Associates (electrical); Ralo Engineering (methane mitigation)*
Consultants: *Tim Thomas (lighting); Robert M. Fletcher (landscape)*
General Contractor: *Herman Construction*

Over the Top

its 17-year relationship with Brearley, a private K-12 school in hattan, Platt Byard Dovell has employed structural ingenuity ight coordination to complete multiple construction phases in 10-week summer recesses. Today, the 1928 building stands enated, complete with new mechanical and electronic-communi- ns systems. Virtually every space use was relocated according to ster plan carefully worked out with the clients. Work has includ- new library structure suspended above the renovated auditorium deep roof girders to allow alignment of new and existing floors.

revious work, however, tested the architect's mettle more than a ntly completed two-story penthouse that keeps enrollments high roviding inviting accommodations with spectacular views of the River for the four upper-grade classes, as well as a new alumni ting room and administrative offices. (The top-floor plan, below, is lar to that of the lower floor.) Existing-conditions research, gn, *and* construction were completed within 15 months despite cate contract documents and lengthy contractor discussions led to meet the 10-week installation deadline. Connections of ting steel on all ten floors below had to be reinforced for lateral ngth; H-section beams and columns of the old top-floor gym me tubes by adding plates for greater compressive strength; all hes were replaced and existing elevator penthouses and water raised. Where original architect Benjamin Morris divided the ding into a vertical river-front tower and stepped-back rear ion, Platt Byard Dovell has given the tower emphasis by adding a y of matching-brick cladding (top right and opposite, far left), nst a background of gleaming aluminum and operable glass ain wall that clearly speaks of its time. Traditional classrooms in reflect the client's belief in time-tested educational methods.
rles K. Hoyt

dits
Brearley School
York City
hitect: *Platt Byard Dovell Architects—Charles A. Platt, Paul S. rd, Ray H. Dovell, principals; Arthur Blee, associate; liam Rockwell*
ineers: *Robert Silman Associates (structural); Goldman eland Associates (plumbing, mechanical, electrical); n A. van Deusen & Associates (elevators)*
sultant: *NOVATION (codes, building-department approvals)*
struction Manager: *Lehrer McGovern Bovis, Inc.*

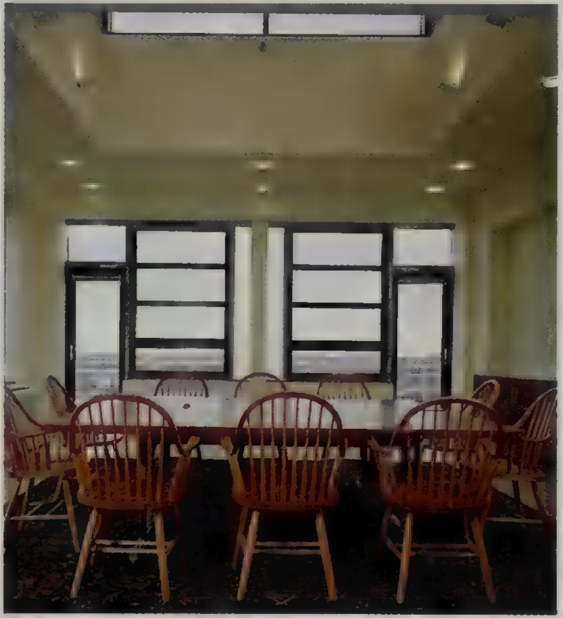


1. *Homeroom, grade 12*
2. *Homerooms, grade 11*
3. *Mechanical*
4. *Alumni meeting room*
5. *Enrollment development and publications*

The Brearley School
New York City
Platt Byard Dovell Architects

© *Addison Thompson photo*

© *Addison Thompson photo*

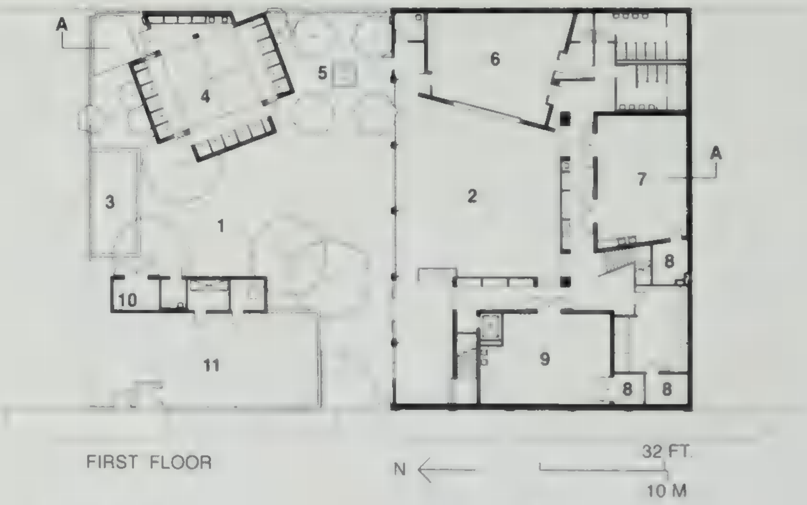

© *Dan Cornish photos except as noted*

Arts Oasis

A body shop in Los Angeles' run-down arehouse district is transformed into a hriving arts center for children.

Mark Taper Center/Inner-City Arts
Los Angeles, California
Michael Maltzan Architecture
Marmol & Radziner Architecture
Architects

© Erich Koyama photos



1. *Courtyard*
2. *Gathering space*
3. *Amphitheater*
4. *Ceramics studio*
5. *Fountain*
6. *Performance classroom*
7. *Music classroom*
8. *Storage*
9. *Media classroom*
10. *Shop*
11. *Parking*

Named for its largest contributor, the Mark Taper Center enrolls schoolchildren from six Los Angeles inner-city elementary schools. By exposing them to a pleasant environment, encouraging them to create objects of their own, and instilling a sense of accomplishmen it seeks to direct them away from the lures of drugs, gangs, crime, and violence. Many are homeless, or live in overcrowded apartment

The center, in operation since 1994, is a huge success, and sponsors teachers, and students alike attribute much of this to the architectu which took an 8,000-square-foot auto-body shop in a rundown warehouse district, added an empty adjacent lot of equal size, and transformed all into a well-scaled space full of light and air.

At first the owner was going to demolish the shop, but this would h cost $400,000 and destroyed a unique structure of wood bow-string trusses over 2-inch by 8-inch wood studs. Instead, for little more th twice what it would have cost to wreck it, architects Michael Maltza and Marmol & Radziner (working pro bono) saved the vigorous, un fying components that bridge the great interior (only 20 percent of the structure is new), adding a series of new skylights to bring daylight into the space (opposite page).

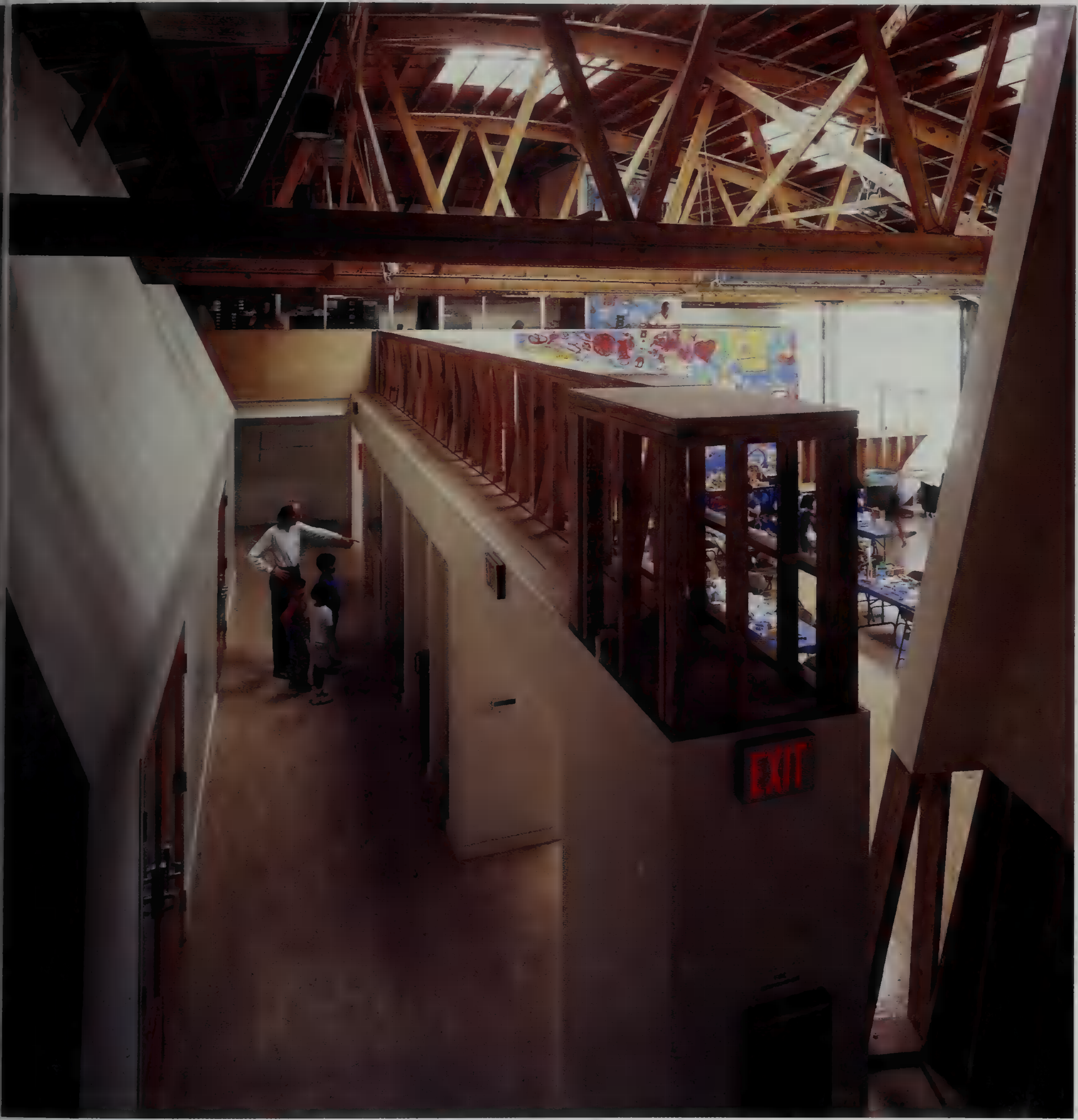
The complex is a model of sophisticated planning. You enter the cou yard through a transparent gate set in a high buffer wall, and come into a pleasingly scaled court, with a freestanding ceramics studio (above left) and small outdoor amphitheater to the left, and the mai gathering space (overleaf) to the right. This room, the heart of the center, is connected to the court through a set of three industrial-ty sectional overhead doors with glass vision panels (previous overlea Even when closed, as shown on the preceding pages, they connect t room with the outside. When raised, they create a splendid "town courtyard." (A mezzanine over part of the enclosed area houses offices and offers a view over the entire facility.) An ingenious arcad system wraps around the gathering space, allowing children to rea classrooms without disturbing other functions.

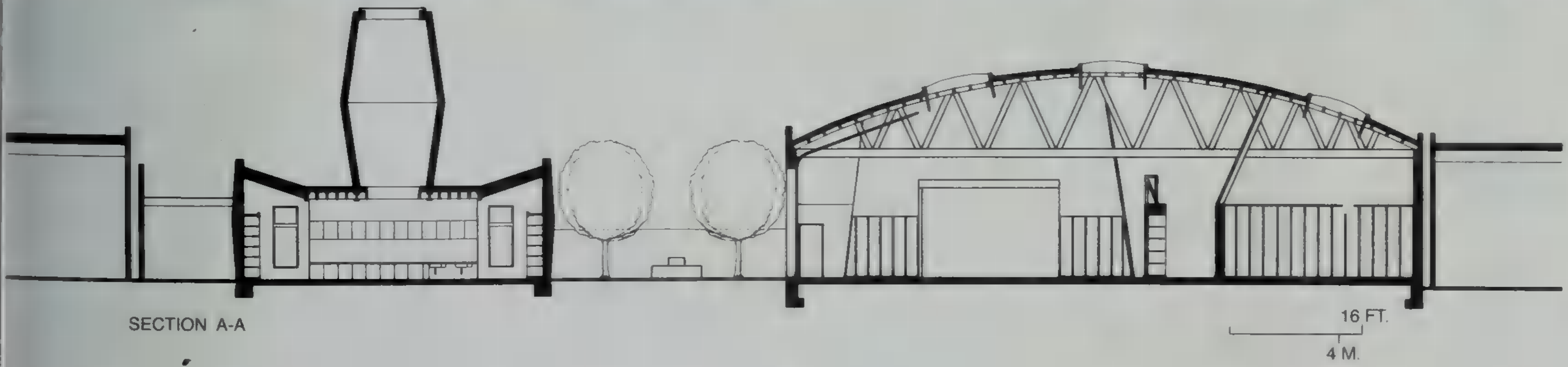
For continuity between the old and the new, exposed lumber is used throughout. At first, plaster board was going to cover the studs fro floor to ceiling but, to maintain appropriate scale, the plaster stops the seven-foot line, a level kids can identify with.

An unforeseen but important by-product of the center has been the children's curiosity about the design and construction of the buildin And they are able to see from one space to another, a rare experien for kids accustomed to run-down, boxed-in classrooms.

Nice small touches add to the experience. A cool little outdoor communal fountain is for the children to clean off their brushes; a real lemon tree shows the passing of the seasons; etched-glass donor plaques are sunk into the floor outside the spaces being commemorated. *Stephen A. Kliment*

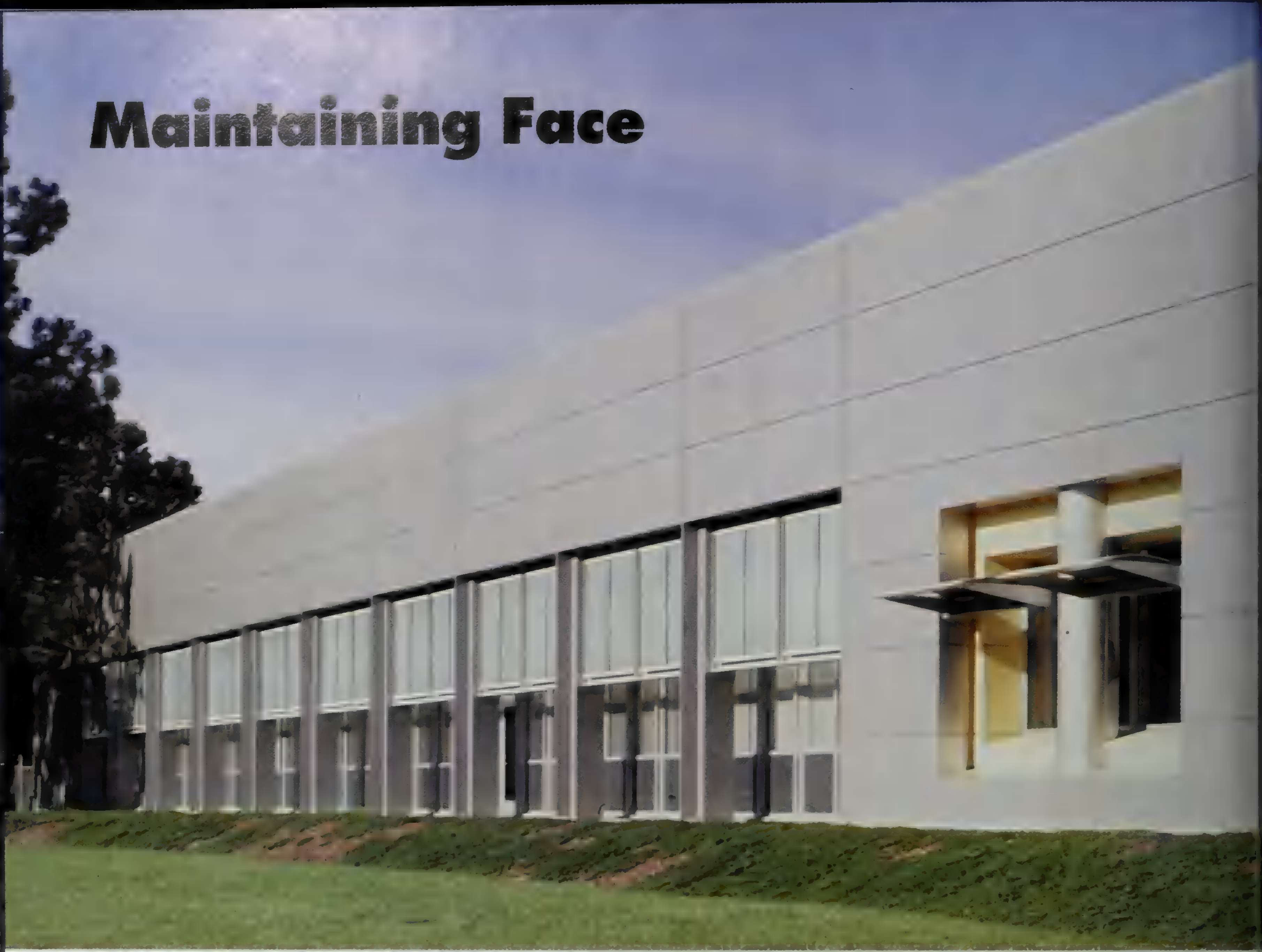
Credits
Mark Taper Center/Inner-City Arts
Los Angeles
Client: *Inner-City Arts*
Architects: *Michael Maltzan Architecture—Michael Maltzan, project [illegible]; Marmol & Radziner Architecture—Leonardo Marmol, project manager; Ron Radziner, project architect; Megan Dayton, Chris Shanley, Jared Levy, project assistants*
Engineers: *Decoma Industries—Mehrzad Givechi (structural); Levine-Seegal Associates—Mark Seegal, Gary Dunn, Anil Shinde (mechanical/electrical)*
Consultants: *Nancy Goslee Power and Associates (landscape); Lam Partners—Paul Zaferiou, (courtyard lighting); Ph.D.—Michael Hodgson (signage/graphics)*
Contractors: *Decoma Industri (main building and courtyard) Pacific Southwest Development (ceramics building)*





SECTION A-A

Maintaining Face



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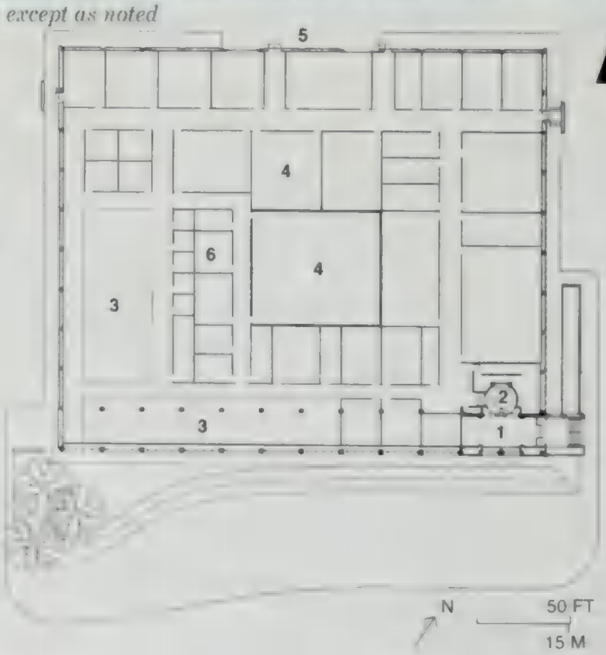
1. *Lobby*
2. *Rotunda with skylight*
3. *Existing open office*
4. *Existing studios*
5. *Existing service*
6. *Studio support*

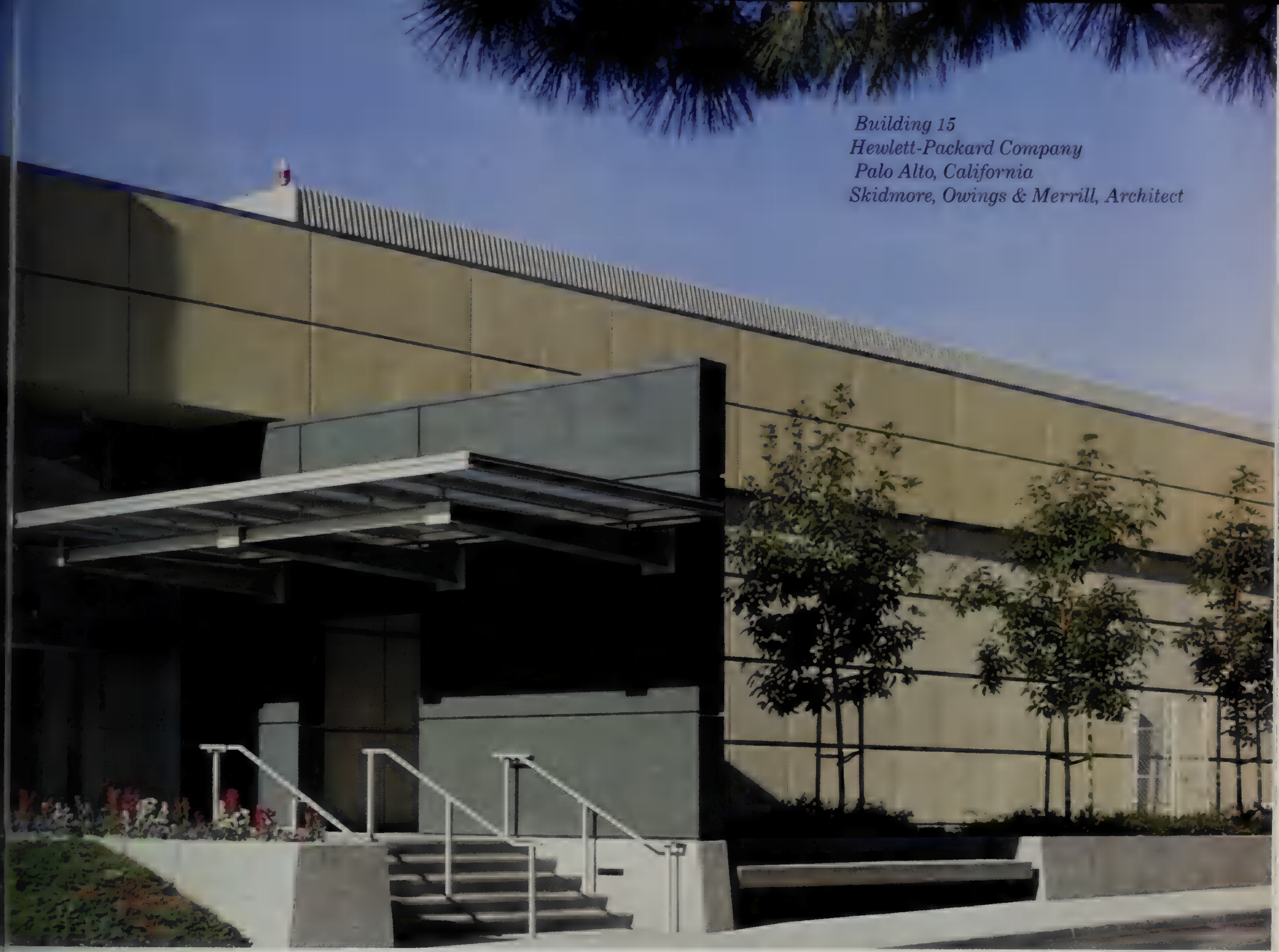


A common problem for many contemporary building owners is what do with the 30- to 40-year old structure that has taken on a tired, shoddy face, while its role on the corporate campus has been upgra ed along with its public profile. As often as not it calls for a face-lift rather than out-and-out renovation.

That was the challenge handed to the architects by Hewlett-Packa in the shape of Building 15. This lackluster structure was complete in 1965 on HP's main Palo Alto campus—a windowless (on three sides) "black box" built to make and distribute computer hardware (photo below). The original components were modest but durable, consisting of a simple steel post-and-beam structure with tilt-up, exposed-aggregate precast panels.

The program changed in the early 1990s, when the building was co verted to a training and worldwide teleconferencing center. HP requested an image more in line with the building's new public role The occasion also suggested taking a new look at its K-brace seism treatment; revamping egress so as to dump an unsightly mid-facad exit stair; and creating a strong entrance.

Most pressing was the dingy image projected by the south or stree facade. The architect handled this by replacing the facade with a great metal screen wall (above). This screen is intended to be seen an independent "plate" that appears to slide free of the stucco-clad



Building 15
Hewlett-Packard Company
Palo Alto, California
Skidmore, Owings & Merrill, Architect

lding box behind it. In fact, the old facade infill was not removed,
eep the building operating during construction (the training and
conferencing center had already been "poured" into the old box
ne years previously). SOM partner Craig Hartman went on to
ign into the plane of the metal wall an infill veil of patterned
amic-frit coated glass, placed four feet in front of the existing
tain wall. The frit glass serves as a solar screen for office space,
ile providing views. The veil is set in a light metal frame that seis-
ally braces the perimeter columns, and replaces the old K-bracing.

e next step was critical. "The original building," says Hartman,
ade no attempt to announce its entry. Finding the front door is
ch more critical with Building 15's new public role." The result is
accented entrance consisting of a green stucco wall plane and glass
opy. The new entrance lobby (right) is topped by a shallow vault
med out of gypsum board, with a circular skylit transition to the
erior (partly seen at left in photo). To further mark the entrance,
metal "plate" on the street facade was punctured by an elegantly
ailed paired window topped by a *brise soleil* (above, to left of
opy). The fire stair was removed, and the egress requirements
t by a landscaped berm. *Stephen A. Kliment*

Credits
Building 15
Palo Alto, California
Client: *Hewlett-Packard Company*
Architect: *Skidmore, Owings & Merrill—Craig Hartman, partner in charge of design; Steve Weindel, associate partner, project architect; John Mader, Wally McMillan, project team*
Engineers: *Skidmore, Owings & Merrill—Navin Amin, associate partner, Peter Lee, project engineer (structural); minor mechanical and electrical work by general contractor*
Consultant: *Jill Pilaroscia (architectural color)*
General Contractor: *Rudolph & Sletten, Inc.*

© Steven Brooke photos

Propaganda Pieces

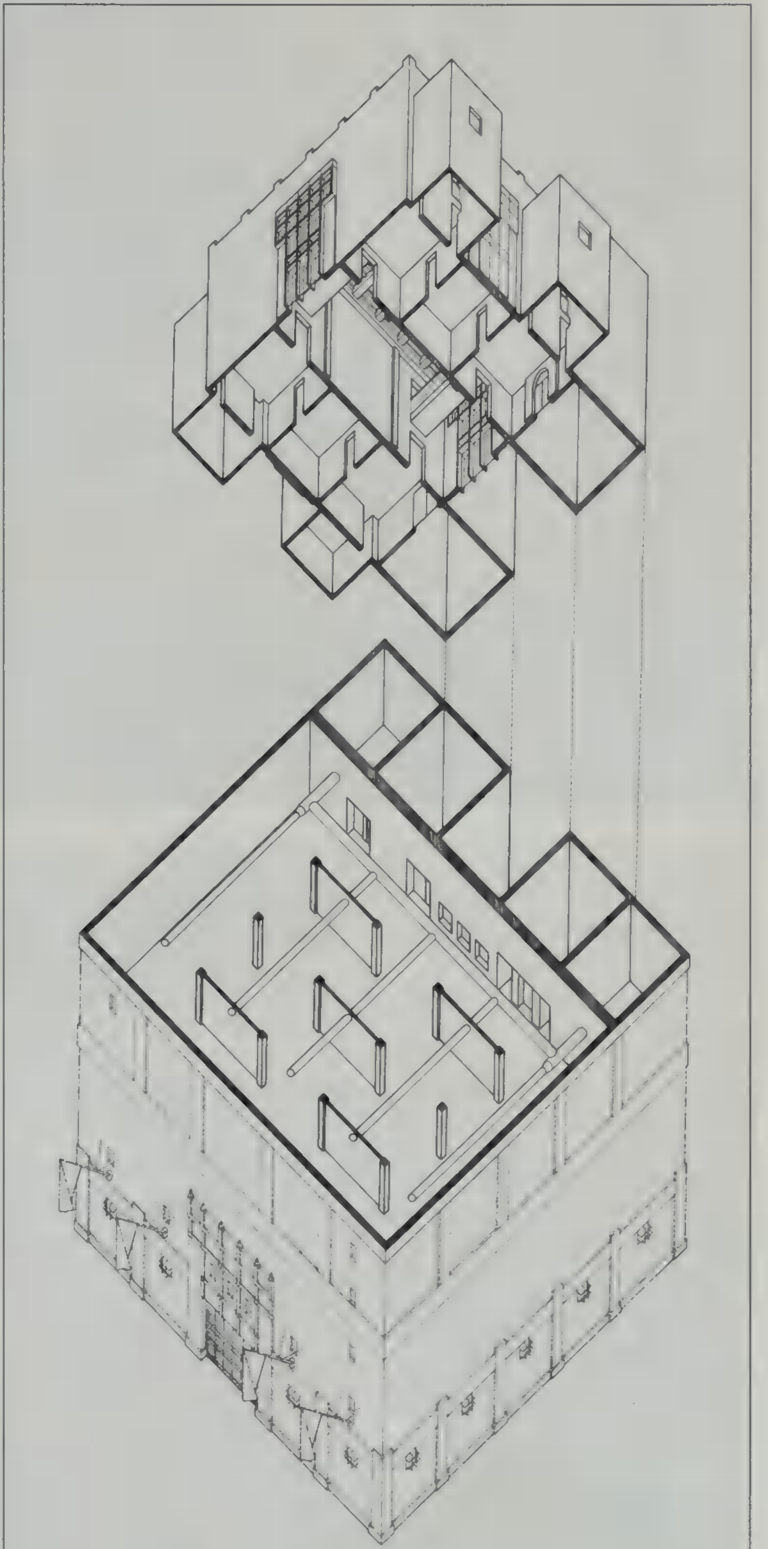
The Wolfsonian
Miami Beach, Florida
Mark Hampton, Architect
William S. Kearns, Associate Architect

Wolfsonian is a happy match of unusual building and client.
ts patron Mitchell Wolfson, Jr., a native of Miami, grew up observ-
Hollywood make-believe's influence on popular culture, and
ame an inveterate collector of decorative-art objects designed
tween 1885 and 1945 to project propaganda into the era's think-
—eventually amassing over 70,000 objects, including Soviet,
nerican, and Fascist political posters and stadium banners, not to
ntion whole building facades and numerous household objects that
nvey various governments' messages and fantasies.

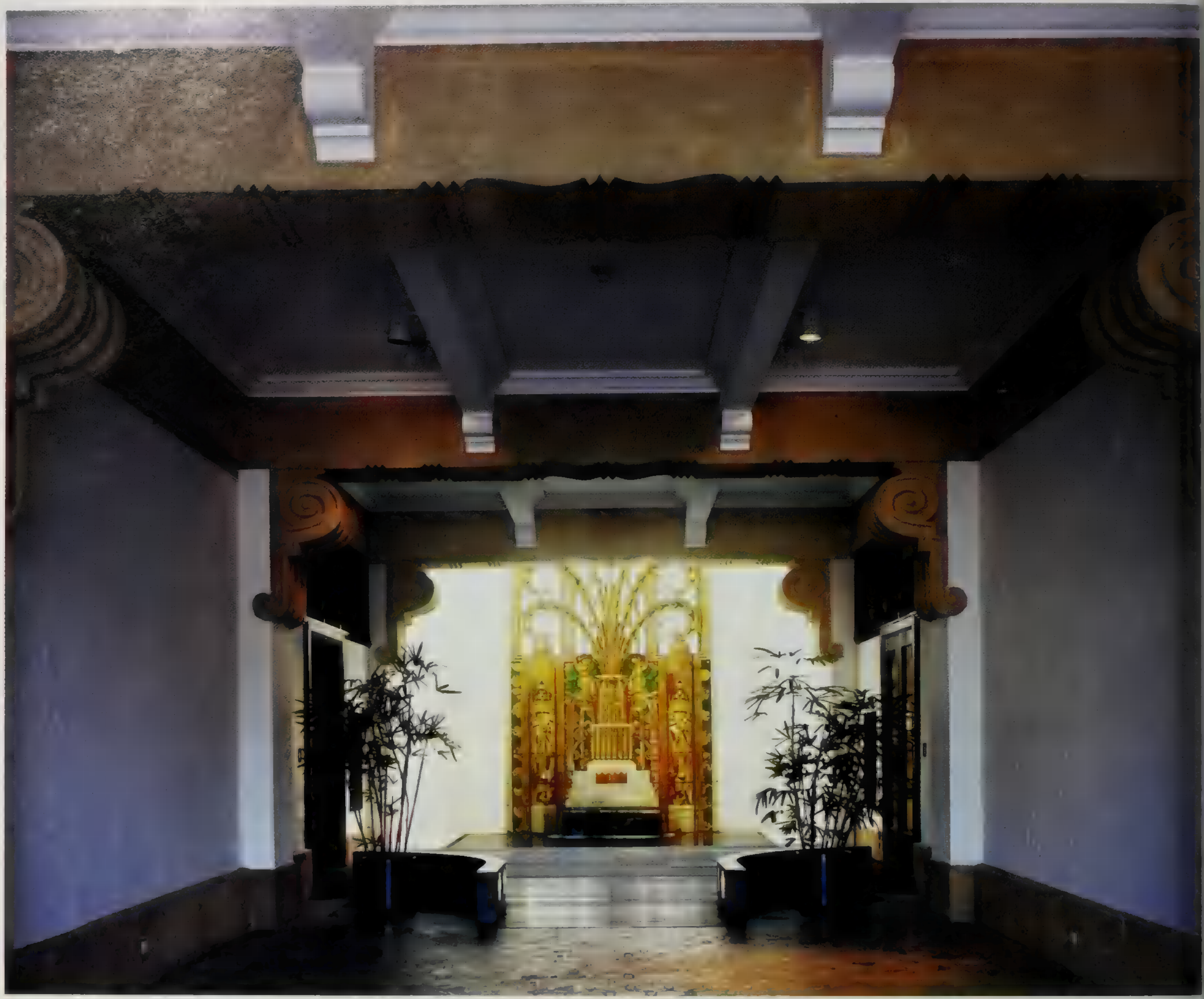
ticipating his storage (not to mention display) problem, Wolfson,
gether with architect Mark Hampton and associate William Kearns,
ed an initially unlikely solution—an underutilized five-story ware-
use on Miami's then seedy South Beach, just two blocks from the
lantic's treacherous waves, and so close to sea level that even a
vere rain washes into the central arcade, where its entrance opens
the sidewalk and streets have no place to drain. But the building
d stood through the worst of storms since 1927—as *the* repository
winter residents' valuables, including their cars, left behind when
ey boarded trains north for the summer. Earlier users' confidence
s inspired by the building's fortress-like character, including
assive poured-concrete framing and floors, two-foot-thick walls, and
arse gunport-like windows. Wolfson, Hampton, and Kearns were
spired by more: over 50,000 square feet of flexible open floors inter-
pted only by a 20- by 18-foot column grid and, on the second floor,
e walls of several huge vaults. The exterior character suits its new
rpose as well. In typical 1920s Floridian fancifulness, the elaborate
st-stone decoration was copied straight from a 1500s Spanish
urch.

enovation has been a catalyst for the neighborhood's renewal.
owever, the whole transition from storing household valuables to
oring, displaying, and caring for valuable art was not that easy.
rst, 1920s concrete technology was less than ideal at its best.
here structure had spalled, concrete was removed, steel reinforcing
eaned or replaced, and new concrete poured. While client and archi-
cts were eager to keep the interior's utilitarian appearance, it too
esented problems. Concrete floors send up caustic dust through
rasion and do not block dampness penetration between floors.
he solution was a terrazzo-like finish with a large component of
nd, which approximates the original floors, poured over a water-
oof membrane.

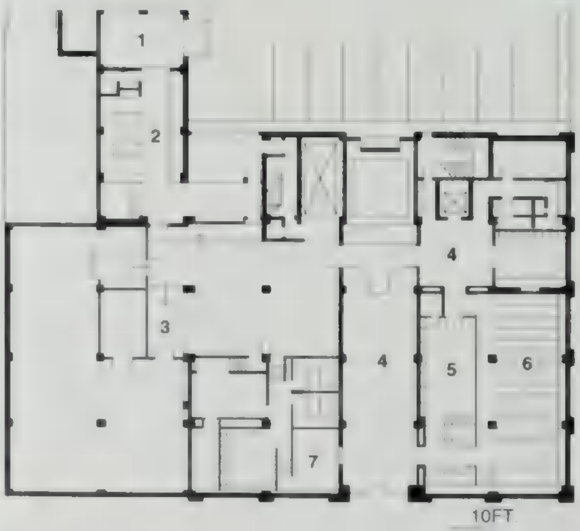
odern climate control, computers, lighting, and security all require
tensive cabling and ducts that normally raise visual havoc when left
posed. The architects organized these elements around the order in
e structural framing—thick beams running in one direction and
uch thinner, closely spaced beams in the other, forming coffers
verleaf). Warm-white bulbs in tubular fixtures bounce ultraviolet-
ee light from the ceiling and raise its visual height. Rectangular
ire molds pass along the bottom vertical edges of the thick beams to
ear the slightly higher thin ones and provide cabling access at any
oint in the building. Polished aluminum air ducts are centered on
lumns to accentuate the intended design discipline. Total costs for
enovation and additions were $8.5 million. *Charles K. Hoyt*



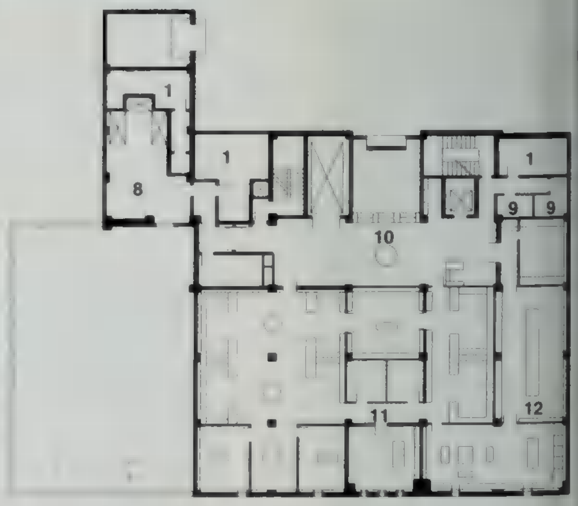
Additions include future gallery space in a two-story penthouse over the main public exhibit area on the old top floor, and two new towers on the rear to hold a fire stair, redundant mechanical rooms, and a passenger elevator.



1. *Mechanical*
2. *Receiving*
3. *Exhibit preparation and storage*
4. *Entry arcade and elevator lobby*
5. *Gifts*
6. *Auditorium*
7. *Tickets and information*
8. *Files*
9. *Toilets*
10. *Reception*
11. *Curatorial offices*
12. *Conference*



FIRST FLOOR

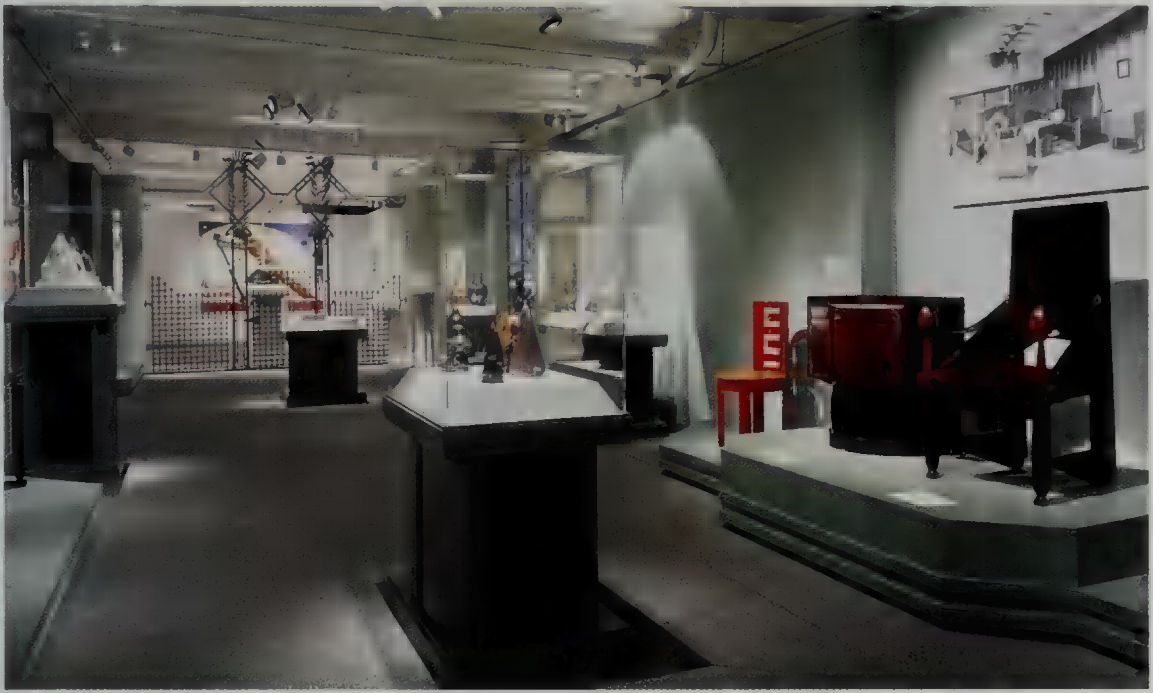


SECOND FLOOR

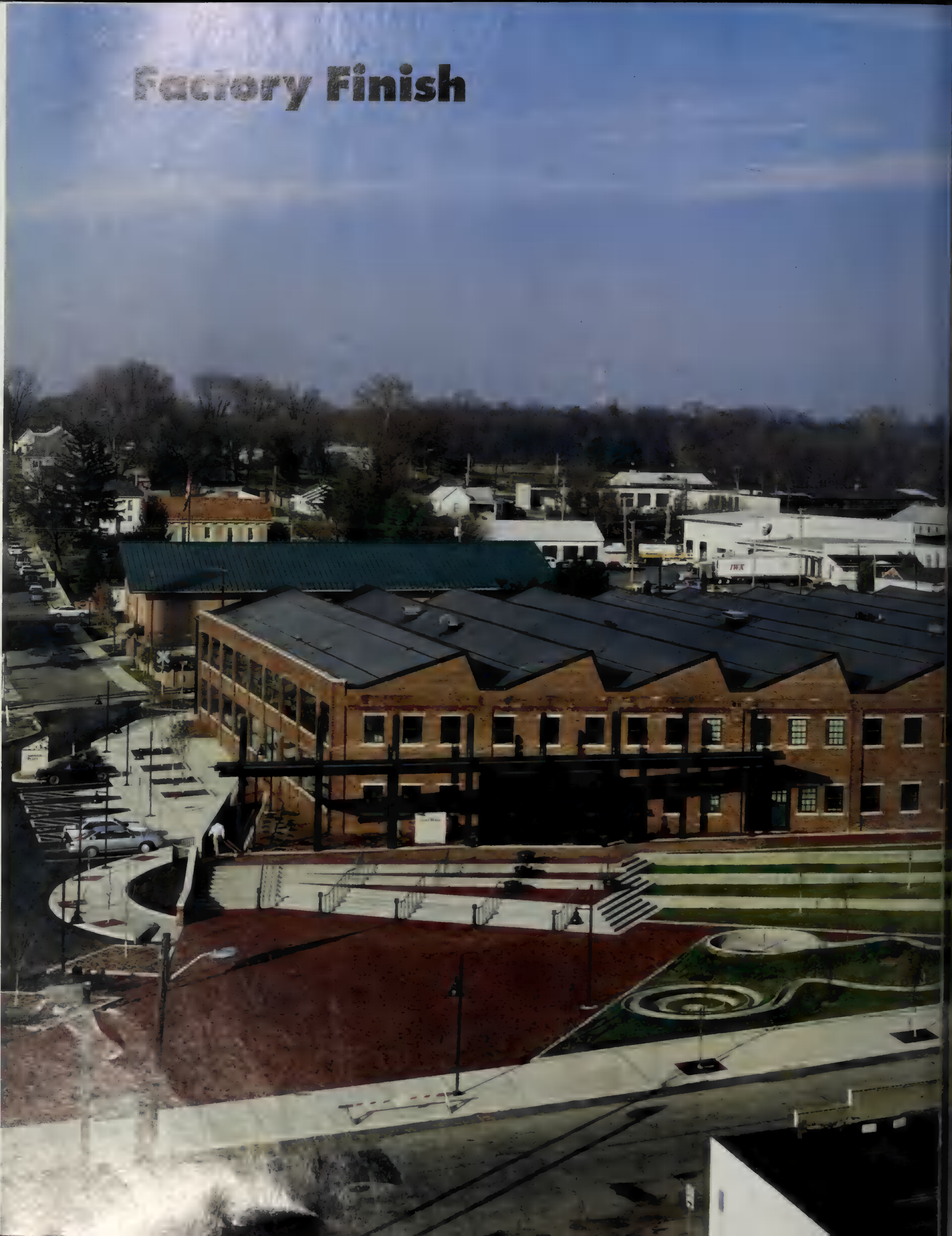
d-floor administrative
s (previous two pages, top)
de the reception area (left)
ining 1930s first-class
ing room furniture from the
n train station. Most of the
ing is devoted to curatorial
y and storage (bottom).
ns in the current exhibit
page, right) include objects
the industrial-era backlash.

s on permanent display
de a streamlined Arts and
ts stairway (bottom) and the
-cotta facade of a Pennsyl-
a movie palace (opposite).
ccommodate the facade, the
itects extended the back of
uilding with a two-story,
it addition, which guides
ors along the central entry
de to a new passenger eleva-
plans). First-floor spaces are
ed above possible flooding
connected by a bridge across
idewalk-level arcade, which
en to the street through iron
s.

dits
Wolfsonian
mi Beach, Florida
hitect: Mark Hampton—
he Goren, project supervisor
ociated Architect:
liam S. Kearns
ineers: Donnell & Duquesne
uctural); Louis J. Aguirre &
ociates (mechanical);
vard Brandston & Gordon
on (lighting); E. B. Brown &
ociates (security); James
pe (materials conservator)
neral Contractor: E. W.
rles Construction Company

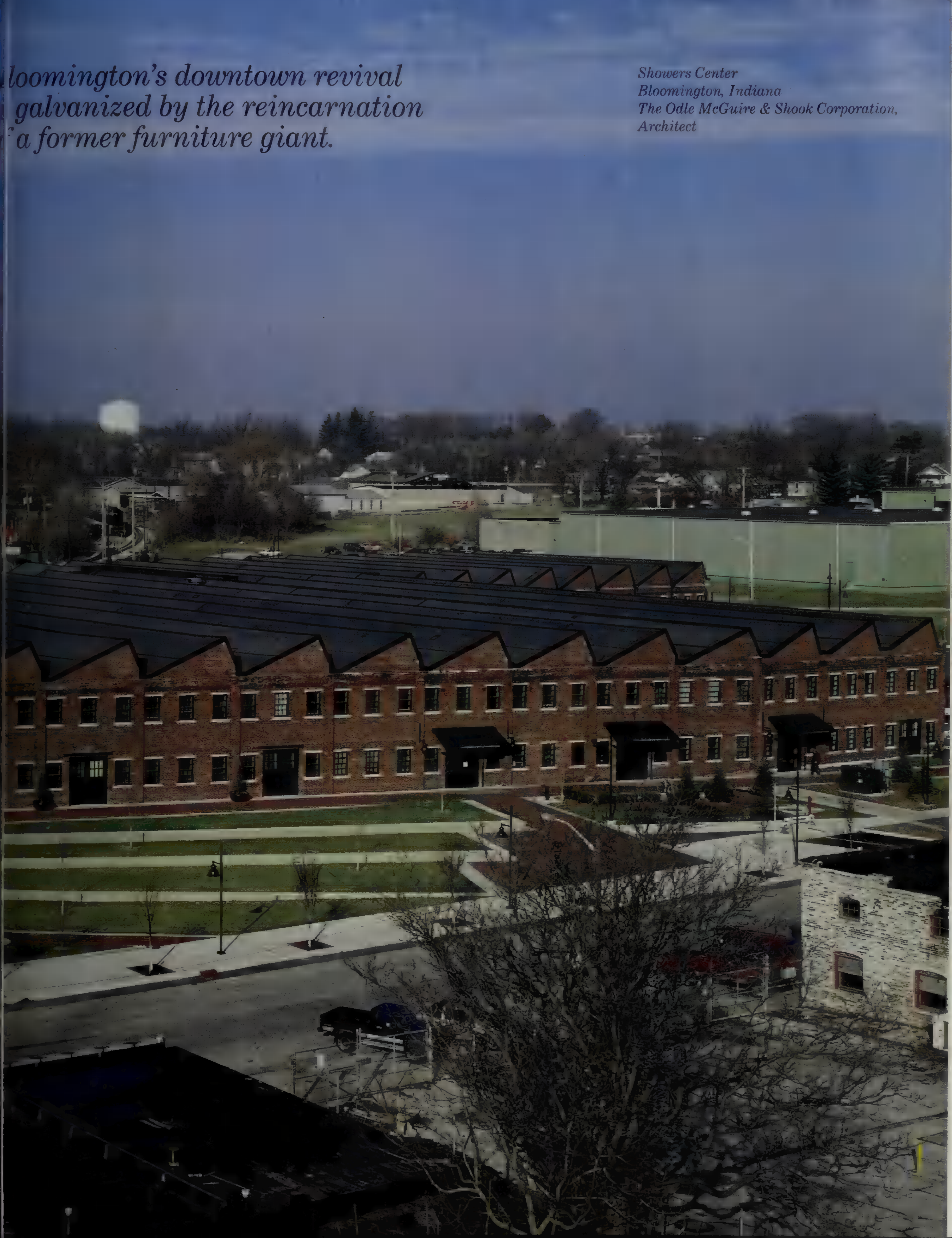


Factory Finish



loomington's downtown revival galvanized by the reincarnation a former furniture giant.

Showers Center
Bloomington, Indiana
The Odle McGuire & Shook Corporation, Architect



The Showers Center isn't a simple story about an old building that was given new life. Rather, it's a prime lesson on how an ancient—by American standards—building, with deep roots in the Bloomington community, has motivated three totally diverse clients to get their financial, program, and architectural acts together, and extend this respected element of the city's civic fabric into the next century.

In 1854, Charles Showers, a Pennsylvania cabinetmaker, founded a factory on the site to make solid-oak bedroom suites covered in rotary veneer. In 1910 he added the first of four huge plant- and office-expansion buildings, of which the one pictured on these pages was the first, a more than 200,000-square-foot giant built around the original core in a record six months. During the 1920s, Showers ran the world's largest furniture factory, and produced 60 percent of America's furniture. By 1955 the Showers fortunes had waned, and in 1959 Indiana University began to buy up the plant, using it as a warehouse.

Enter the Bloomington Advancement Corporation (BAC). Employing an array of local and federal tax incentives, BAC assembled three key operating owners, remarkable for the great diversity of their activities—the City of Bloomington, CFC, Inc., a large property-management company, and Indiana University (IU). Each owner agreed to develop about one-third of the huge building. The city of Bloomington was looking for ceremonial space for its council meetings, plus offices for key departments. CFC wanted a headquarters with dignity and style. IU was establishing a research park to draw high-tech jobs to the area, and renting most of the space to small research companies.

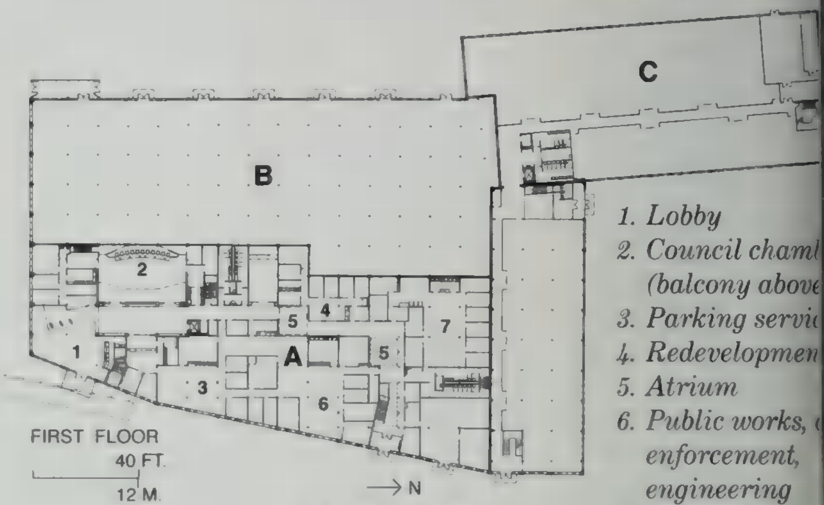
Throughout the programming and design process, one of the architect Odle McGuire & Shook's prime challenges was to find common ground among the various owner groups, yet meet their individual concerns as to design, funding, scheduling, and project coordination. The chief vehicle was an informal partnering process—a series of monthly meetings, over a span of four years, of the owners' representatives, with the architects as coordinators.

Each owner has a unique, identifiable entry. IU's echoes the original steel-sash and glass curtain wall at the north end. CFC has a metal-and-glass atrium (right). The city-hall entrance has a cantilevered railroad-platform canopy at the southeast end (top, opposite page). Small entrance canopies occur along the facades, recalling the original cable-hung tin loading-dock canopies.

The entire complex was brought to code. The heavy-timber frame was repaired with epoxy injection and/or wood, and steel columns were inserted between first-floor wood columns in the east-west direction. Wood joists were added in the floor in areas expecting heavy loads, and new rafters were inserted between the original rafters. Ties were added at all trusses and all around the perimeter for seismic reasons. Fully-adhered EPDM sheet replaced the old tin roof. A heat trace system prevents snow buildup in the sawtooth roof valleys. To meet energy codes, the entire building was furred out and insulated, except in lobbies, where the original brick was left exposed. A low-E coating was applied to exterior glass. ADA requirements were not only met, but integrated into the design so no parts stood out as "for the handicapped." The architects researched and specified materials with low or no VOCs, and installed a recycling system throughout the building.

The Showers Center, with its triad of government, industry, and educational clients, has emerged as a significant model of sound planning, good design, [illegible] —*Stephen A. Kliment*

© *Timothy Hursley photos*



A. City hall
B. CFC, Inc.
C. Indiana University Research Park

1. Lobby
2. Council cham
(balcony above
3. Parking servi
4. Redevelopmen
5. Atrium
6. Public works,
enforcement,
engineering
7. Planning

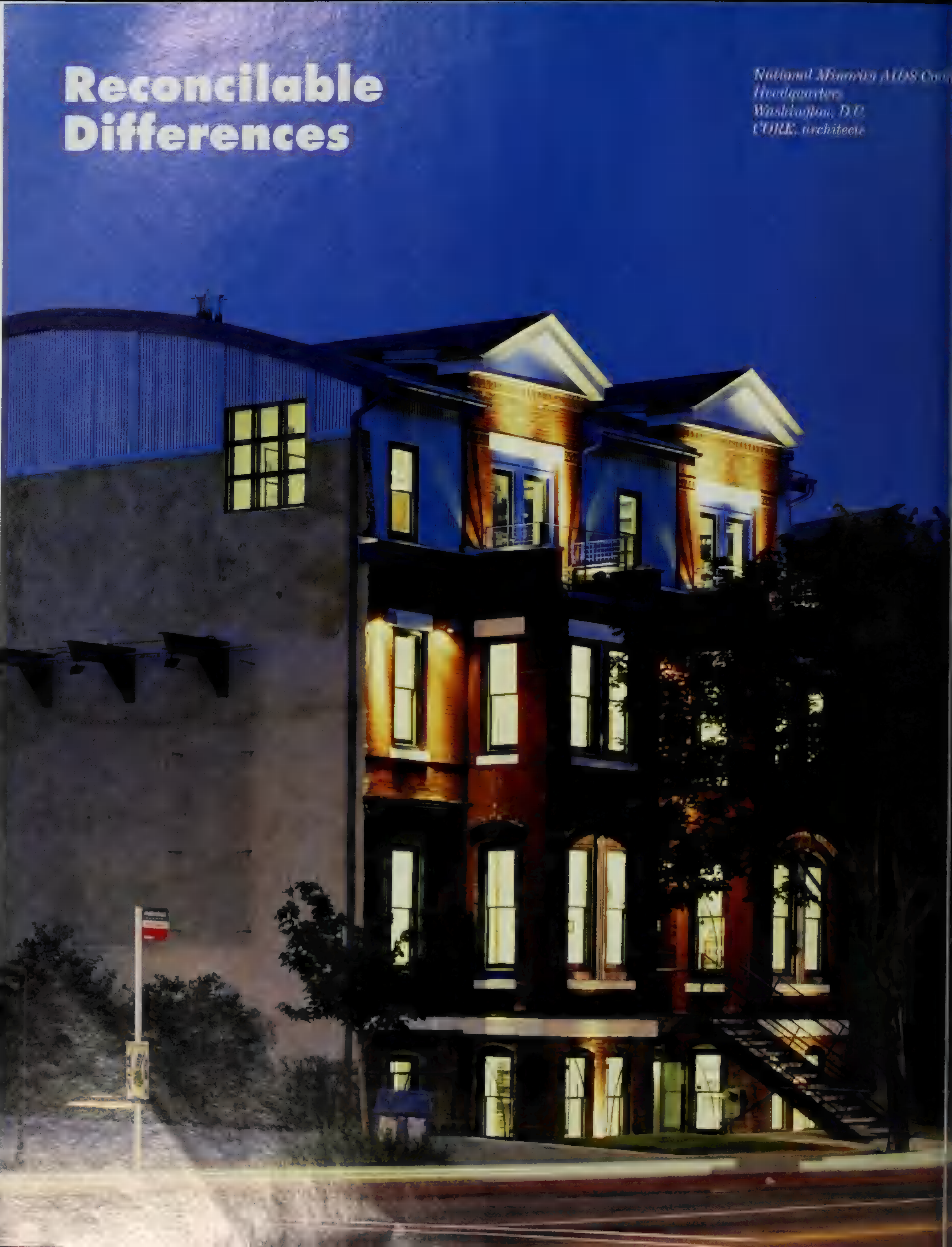
The rigid grid of columns, combined with jagged slopes of the sawtooth roof, shaped interior-design vocabulary (opposite page, left), including the double-height Council Chamber (opposite page, right).

Credits
Showers Center, Bloomington, Indiana
Clients: *Bloomington Advancement Corporation on behalf of Indiana Universi City of Bloomington; CFC, Inc.*
Architect: *The Odle McGuire & Shook Corp.—John Padgett, principal-in-charge; Christine Matheu, project manager*
Engineers: *Fink Roberts & Petrie, Inc. (structural); Moore Engineers, P.C. (mechanical, electrical); Smith Neubecker Associates, Inc. (civil)*
Consultants: *Yerger Acoustics (acoustics); ATEC Associates, Inc. (soils/geotechnical); Weddle Bros. Construction Co., Inc. (cost estimating)*
General Contractors: *F. A. Wilhelm Construction Co., Inc. (Showers Center site and building shell); Superior Lumber & Building Co., (city hall interior)*

CITY HALL

Reconcilable Differences

National Minority AIDS Coun
Headquarters
Washington, D.C.
CORE, architects

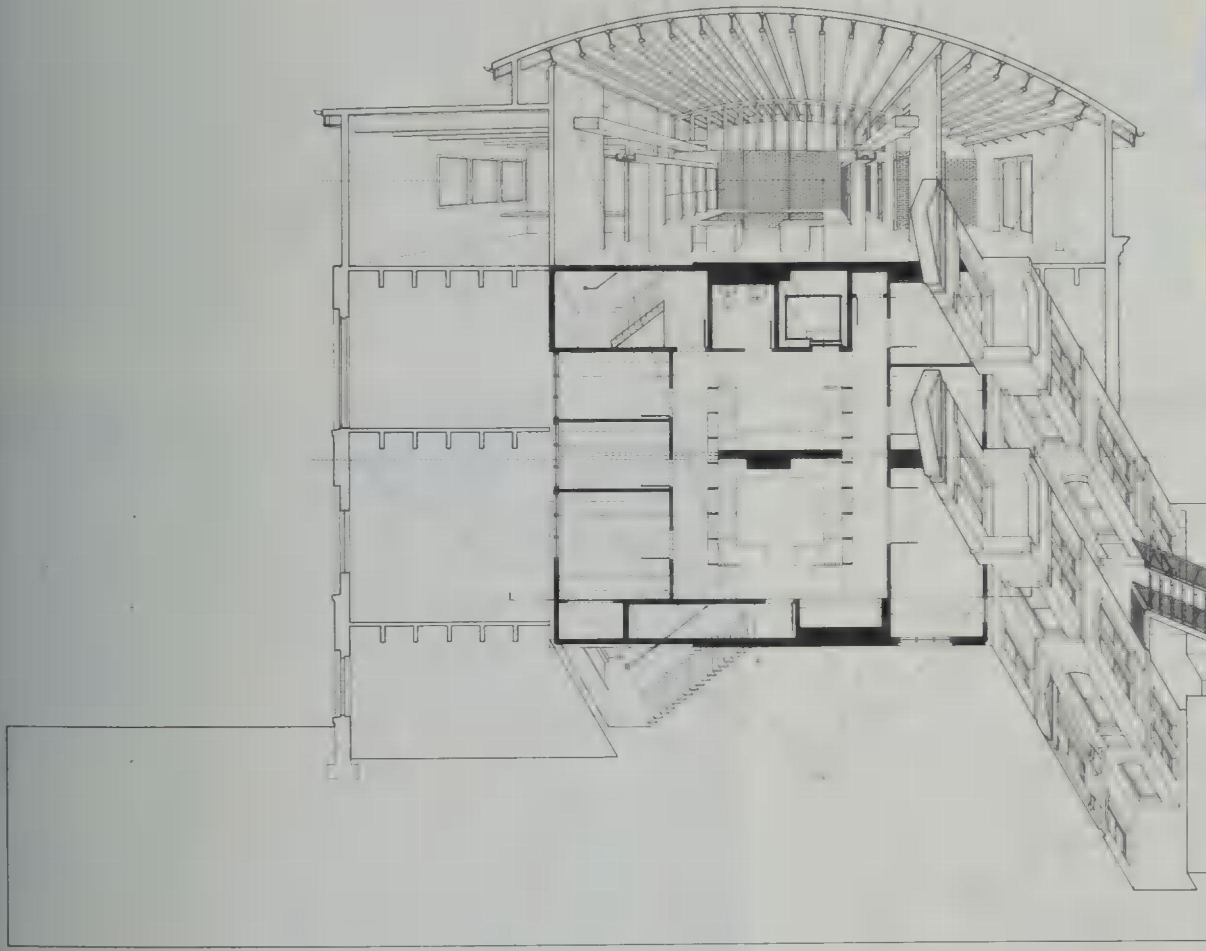


©Michael Moran photos

For an organization like the National Minority AIDS Council (NMAC), contradictions come with the territory. Dedicated to helping people live with a deadly virus, the group wanted offices that express the reality of AIDS but also show hope for a better future. Unconventional by nature, Paul Akio Kawata, the organization's executive director, encouraged the architects from CORE to take stylistic risks in renovating two turn-of-the-century townhouses into NMAC's headquarters. The result is a building that retains a traditional street facade to underline the council's roots in its inner-city neighborhood and its sense of continuity, while inserting bold new colors, modern materials, and open interiors that express its faith in the future.

Given the derelict state of the townhouses, CORE partners Dale Stewart and Peter Hapstak salvaged the front facade (opposite), parts of the two side walls, and most of the party wall originally separating the structures. On the back, they built a new metal-and-glass wall and wrapped it around parts of the side elevations (right bottom). To fit 44 employees into the 7,500-square-foot building, the architects pushed zoning and building codes to their limits—extending the building to its rear setback, adding an exterior stair on the lower floors as a secondary egress, and inserting a handicap lift on the side of the building rather than the front. Inside, an efficient plan locates services to the sides, private offices to the front and rear, and shared "bullpen" offices in the middle. Limited to a $700,000 construction budget (including interiors), CORE used inexpensive materials such as plywood and steel scaffolding in the reception area (right middle) and throughout the facility. A barrel-vaulted roof is left exposed to add height to top-floor offices (right top). *Clifford A. Pearson*

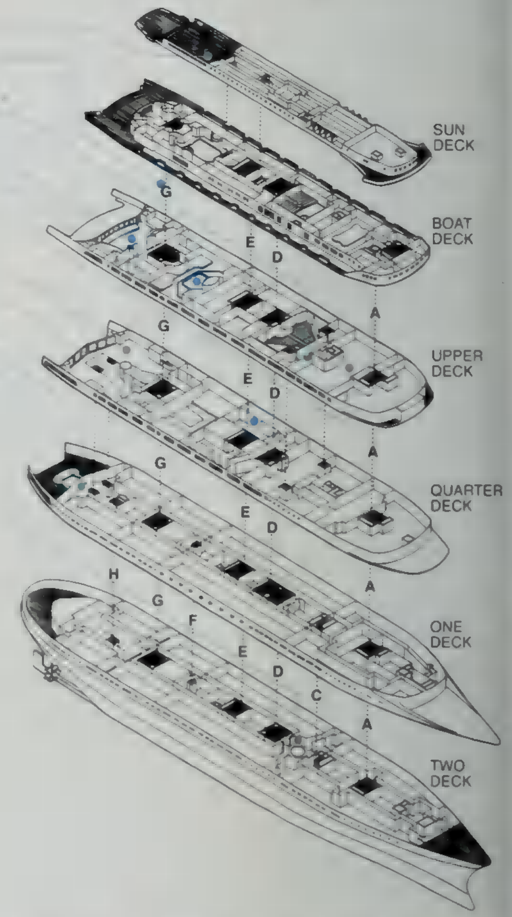
dits
ner: *National Minority*
S Council
hitect: *CORE—Dale*
vart, managing principal;
r Hapstak, design principal;
Gureckas, project architect;
n Wayne, architect.
ineers: *FACE Associates*
E/P); Rathgeber/Goss
ociates (structural)
eloper: *The Jenco Group*
neral Contractor: *Malin*
struction

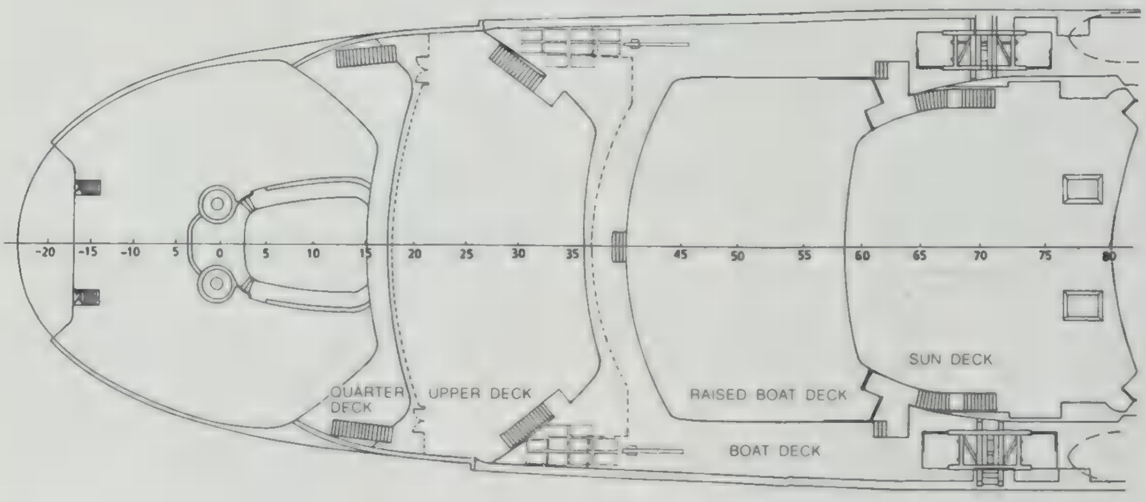


Focus on: From Ship to Shore

Queen Elizabeth 2

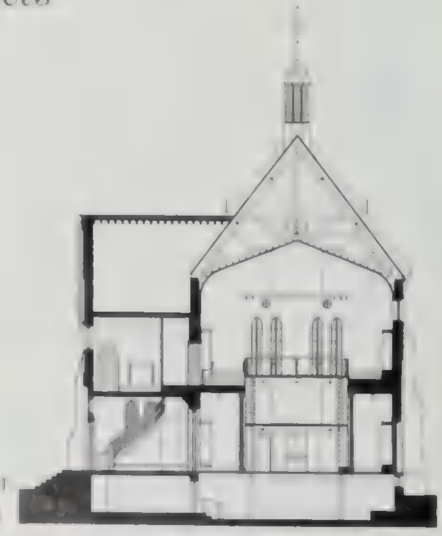
Southampton, England
MET Studio; McNeece, Ltd., Designers

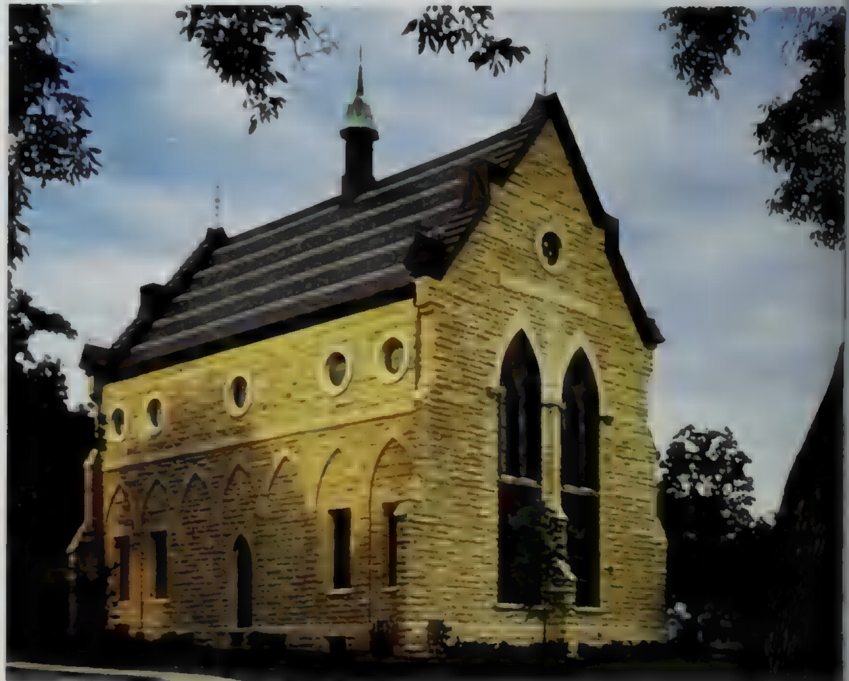




Logan Anthropology Museum

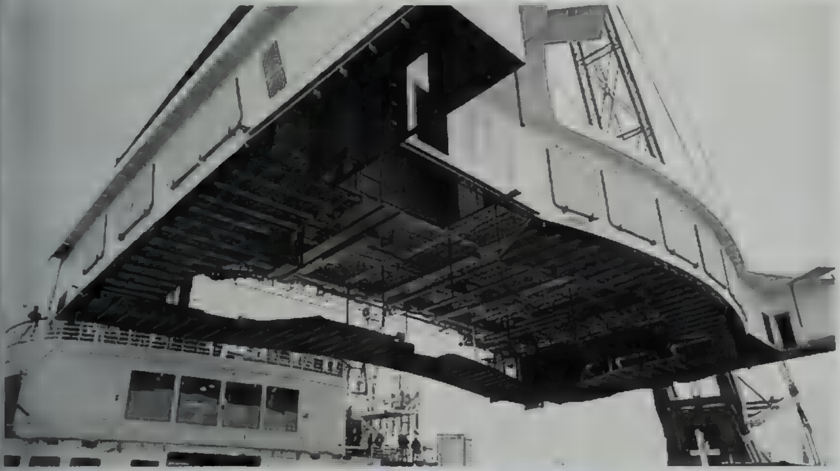
Beloit College, Beloit, Wisconsin
Dagit-Saylor Architects

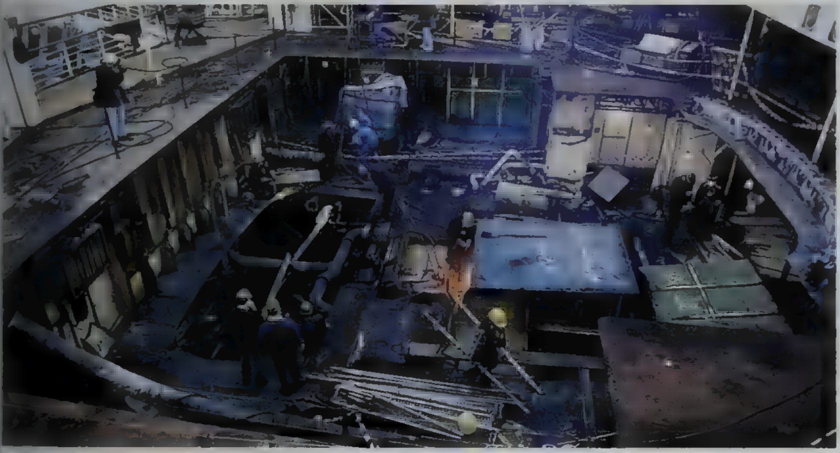




© Steve Hall/Hedrich Blessing photos

hese examples illustrate the diverse range of enewal projects architects encounter in the xpanding market for bringing aging structures in ine with current demands. Constant upgrading of great ship keeps it afloat, while a new use for a ivil War monument continues its viability. C.K.H.





The Queen gets a re-fit.

Structurally renovating a luxury liner is a bit like working in a fourth dimension—the "building" must sail on in the teeth of Force 8 winds. When Cunard Lines put the QE2 in drydock in Hamburg, Germany, in November 1994, it faced a daunting schedule. The ship's structural renovations and interior refurbishments had to be finished in 30 days to meet a December 17 sailing date from Southampton to New York.

MET Studio, Ltd., London, an architectural and design firm, and McNeece Ltd., also of London, a specialist in cruise-ship interiors, collaborated on the project. According to MET Studio's QE2 project manager, Chris Cawte, "Within the marine industry, the scale and complexity of the structural changes carried out in the time scale are considered something of a landmark as far as refits are concerned." Among MET's responsibilities: the design of a newly expanded Yacht Club on the Upper Deck (the prefabricated module is hoisted into place in photo 1). An indoor plunge pool on the Quarter Deck was removed (photo 2) and a McNeece-designed buffet-style dining room seating 500, the Lido Club, was shoehorned into place. Other significant structural changes: the Grand Lounge on the Upper Deck (see axonometric opposite) got a greatly enlarged stage when twin staircases on either side were removed; and the G stairway was extended through to the Boat Deck from the Upper Deck.

The refitting of the QE2 was done to improve passenger circulation and allow passengers to intermingle more freely. And all early '80s interiors were updated for the '90s. *Carolyn De Witt Koenig*

Anthropology revives a monument.

To convert a gem-like, 4,200-square-foot Civil War monument built in 1869 to an anthropology museum for Beloit College, Dagit-Saylor Architects started with basics. One exterior stone bearing wall bulged 18 inches because the deteriorated timber and cast-iron structure inside was inadequate for current loads—much less two additional floors the architects intended to insert to meet program needs. Dagit-Saylor removed and rebuilt the bulging wall and interior structure, replacing it with a new steel one. To do this, they removed interior finishes to the stone, applied a vapor barrier for future climate and humidity-control, and reproduced the 1869 interior finishes, including woodwork and paint colors. They also did extensive reproduction of original exterior features, such as the slate roof and leaded-glass windows, which had been removed over the years. The old front doors, found in a basement, were reinstalled. Internal additions to meet the new use include two-story-high display cases (left) that enclose two floors of curatorial workrooms (far left). The corridor around the cases fits under the original mezzanine (section) while the second-floor workroom gives a hint of the old central space's lofty character through openings in the floor of the third-story exhibition gallery. *C. K. H.*

the Bay Area has shown real benefit beyond the institutional type of diversity, law or affirmative action.

I think it is extremely important for people of influence to provide visibility for such architects so that the public and the nation's decision-makers become more aware that many talented architects are African-Americans. I believe this to be the spirit of the quote which made reference to Spike Lee opening doors for talented African-Americans, rather than the implication that architecture today is still a star profession, which is really a misnomer. Architects, stars and non-stars alike, have worked hard to convey the fact that architecture is collaborative in its nature and process.

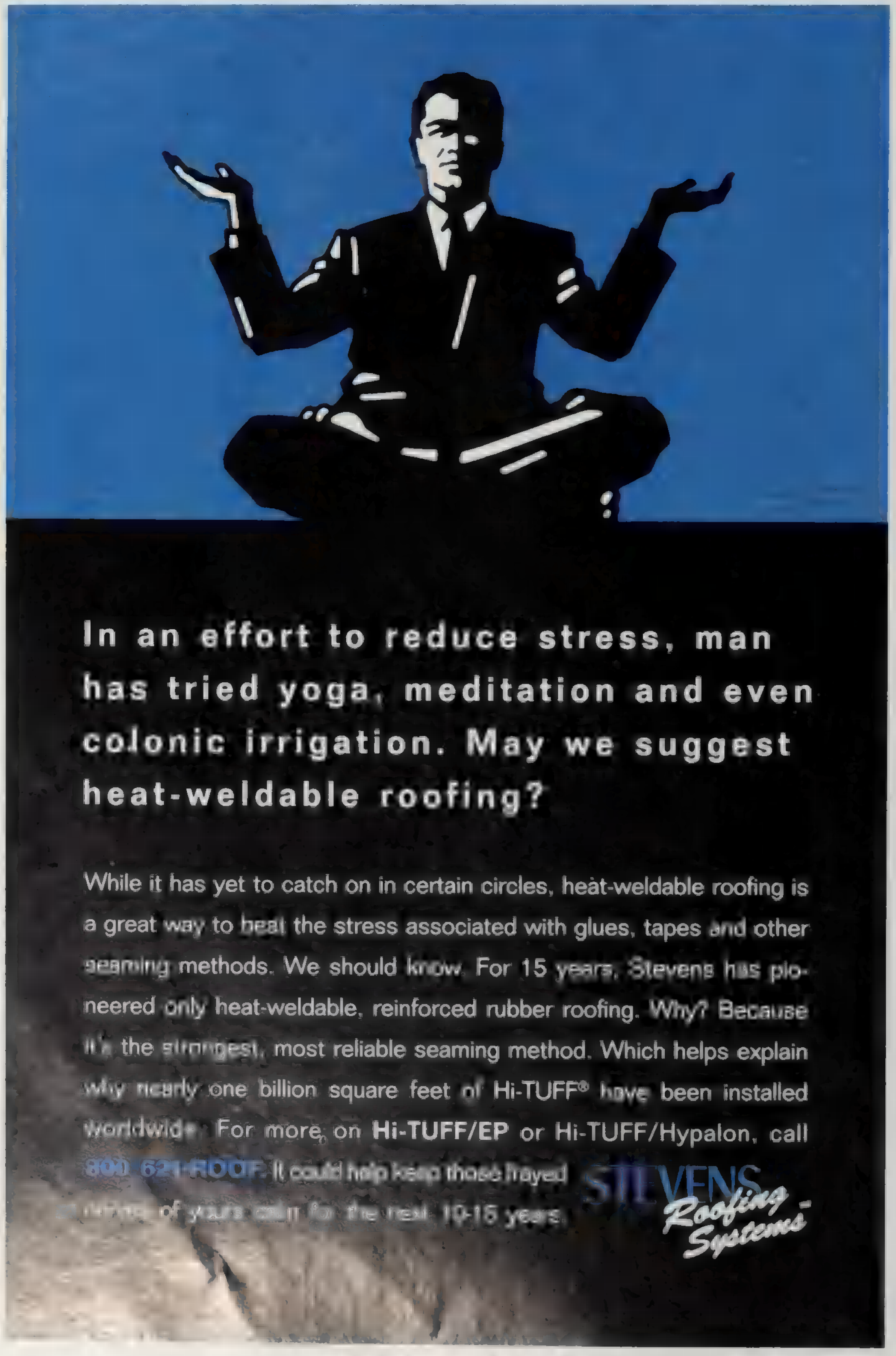
I want to paraphrase a point of view expressed by Cornell West in his book *Race Matters,* which I think will give a perspective or background to my responses. Mr. West has said that recent discussions of the plight of African-Americans tend to divide into two groups. On the one hand are those who highlight the structural constraints on the life chance of black people. Adherents of this viewpoint emphasize the historical analysis of slavery, Jim Crowism, jobs and housing discrimination, skewed unemployment rates a poor education. On the other hand, there a those who stress the behavioral impedime to black upward mobility. They focus on th waning of the Protestant Ethnic—individu hard work, deferred pleasure, frugality an responsibility—in much of Black America.

First we must acknowledge that structure and behavior are inseparable, that institutions and values go hand in hand. How peo act and live is shaped largely by the circum stances they find themselves in. How the Supreme Court ruled in its recent 5 to 4 de sion on affirmative action is a reflection of this struggle between liberal and conservative positions, institutions and values. Wha the court really said is that after reviewing prior decisions on affirmative action, it fou that the issues, context, and circumstances are still valid today. So it maintained its support of affirmative-action practices, but tightened up its ability to curtail abuses. More simply put, affirmative-actions laws were intended to open doors, not to solve a problems of African-American architects.

Responsible government has made contra opportunities available to qualified African-American architects with the hope that the architects would begin to develop new working relationships with the larger whit business community. Likewise, it was expe ed that the larger white businesses, once aware that qualified African-American arc tecture firms existed, would begin to recognize the importance of diversity and, responsible leaders in society, award contracts and do business with these firms voluntarily. The arguments about self initia tive, looking for hand-outs and stigmas are generally expressed either by a few individ als who have needed only their individual drive to achieve upward mobility or are an expression of blind egoistic vanity.

For the majority in society, African-Americans and African-American architects, an extended helping hand from concerned citizens has been and remains essential to achieve success. To use a phrase from Senator Bill Bradley, there is a loss of connectedness. To make further progress, business leaders and the heads of private institutions must use their influence at the highest level to extend opportunities, lend support, and do business with minorities in order to make the American system/dream work for us all in this house called America.

Emanuel Kelly
Principal, Kelly/Maiello, Inc.
Philadelphia



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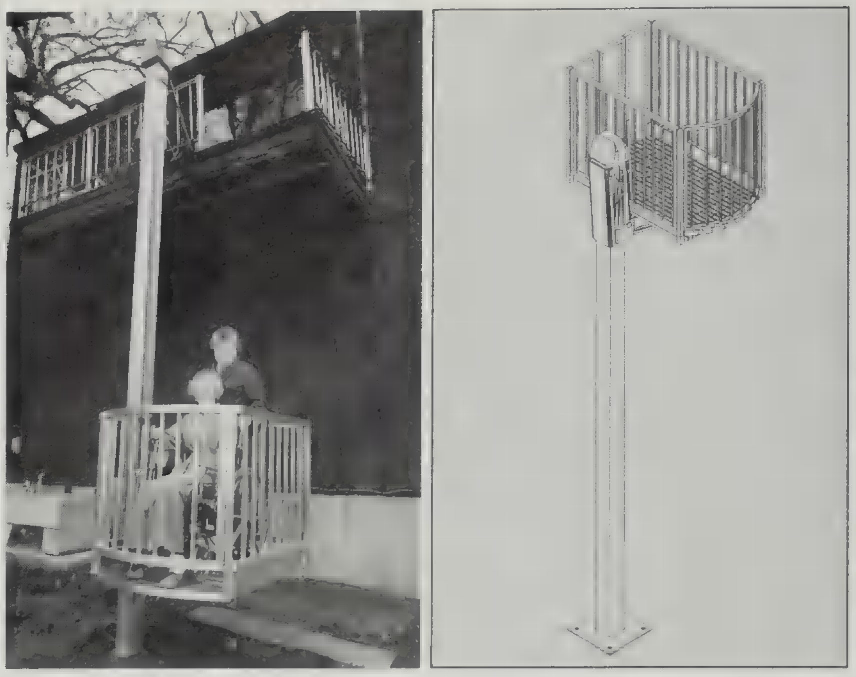
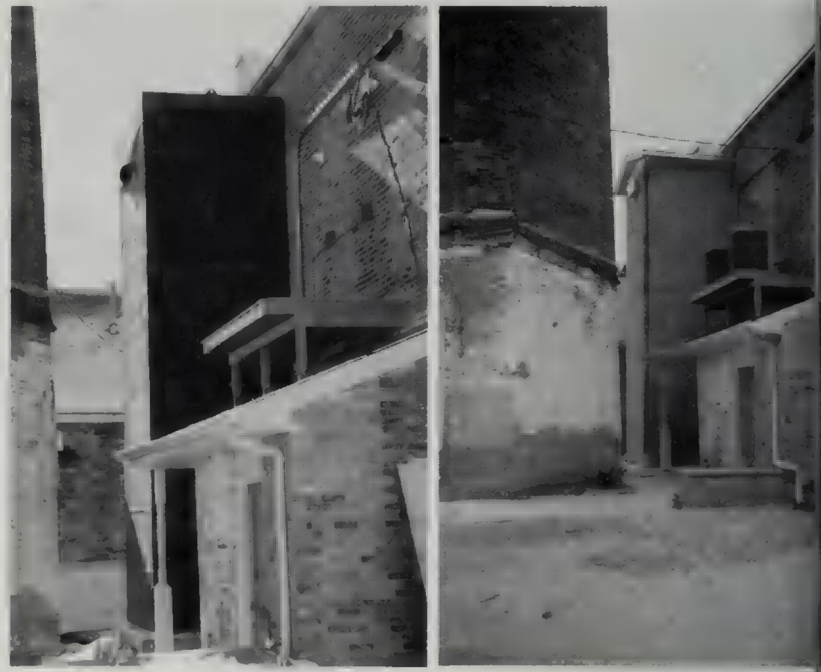


138. Emergency second-floor egress. A fire escape for those unable to use climb-down methods such as chain ladders has been developed by Cal Hansen and the Engineering Department at Kansas State University. The free-standing unit consists of a structural aluminum column, set in a concrete footing, and a gated plat-form. Users board the platform at an upper floor (device can extend to three stories), release the braking lever, and are carried to ground level by gravity working on hydraulics in-side the post. When empty, the platform returns to its starting position. Totally weatherproof, the Grate Escape needs no electricity. Currently in production, the unit will sell for about $3,000. 800/900-1430. Escape Systems, Inc., Manhattan, Kan.



139. Pre-fab exterior elevator. The AC3000 modular elevator is described as an easy-to-install, economical way to meet access requirements in existing buildings. A 2500-lb-capacity elevator comes preassembled within a 2-hr.-labeled hoistway, and set over the 4-ft-deep pit required. The motor and other equipment can be placed within the building itself, or in a separate machine room supplied by the manufacturer. Once in place (left, above) door openings are cut in the buildin wall, wiring connections are made, the hoistway/building gap is flashe The structure is roofed and finishe desired (right) to match the facade. Meets ANSI A17.1; for up to 28 ft travel. 800/656-2314. Infinite Acces Corp., Mt. Vernon, Ill.

Continued on page 112

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Competition

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Category B:
Innovative Industrial Wooden Products

The [illegible] date of the competition is [illegible] 31, 1996.

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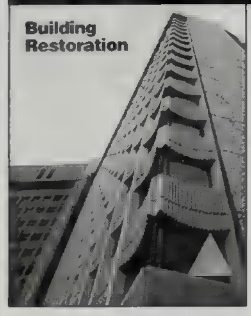
Product Literature/Renovation

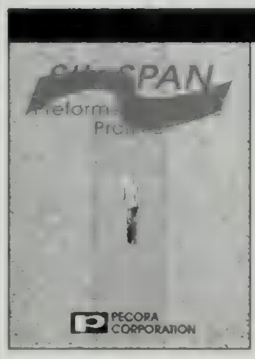


140. Concrete repair

Building Restoration, a 16-page booklet, covers the basics of concrete technology, providing a step-by-step process for successful repair and protection. Sections identify the root cause of many concrete problems and reinforcement corrosion, and explain how to review structures for both visible and latent damage. 800/933-SIKA. Sika Corp., Lyndhurst, N.J.

141. Architectural metalwor

Color catalogs illustrate recent m installations, including wrought-ir grillwork and entrance gates, and stair rails of polished brass and st less steel. Based in France but wit workshops in New Jersey, Montre and California, this firm specialize complex restoration projects as w as custom fabrication. 201/279-357 LMC Corp., Paterson, N.J.

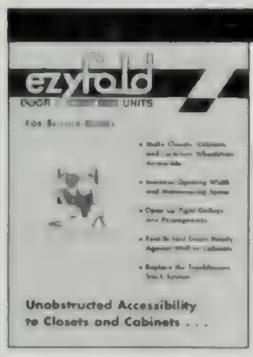


142. Silicone joint repair

Sil-Span extruded silicone profiles are described as particularly useful for repairing failed joints on EIFS exteriors. The replacement is applied with sealant directly over failed joints without cutting out the original material; comes in colors and textures to match most substrates, including metal panels and precast. 800/523-6688. Pecora Corp., Harleysville, Pa.

143. Stucco renovation

The *Stucco Repair, Remodel and Restoration* brochure includes cut away color illustrations and provi basic how-to information on repai both cemetitious and synthetic st exteriors. Proprietary techniques provide a completely new surface over existing walls, or patch crack an "invisible" repair. 800/USG-4Y United States Gypsum Co., Chica



144. Hardware for accessibility

Ezyfold control devices for bi-fold doors are said to make closets, cabinets, and furniture wheelchair accessible, increasing opening width and maneuvering space without overhead tracks. Closet doors open fully without narrowing hallways. Recommended by the Center for Accessible Housing. 413/625-9506. Kiwi Connection, Shelburne, Mass.

145. Variable-height cabinet

A data sheet shows how kitchen c ponents—sinks, storage cabinets, cooktops—can use an economical motorized lifting system to make them accessible to all in a househ from wheelchair users to tall bask ball players. 614/593-5240. Access Designs/Adjustable Systems, Inc. Athens, Ohio.

Continued on page 114

For more information, circle item numbers on Reader Service Card.

nufacturers' Sources

ur convenience in locating building materi-
d other products shown in this month's
e articles, record has asked the architects to
fy the products specified.

s 42-47
rena at Seattle Center
I, Architect
roofing: Overly Mfg. Co. Ice guard: W.R.
& Co. Pole luminaires: Poulsen Lighting.

s 66-71
lew Victory Theater
y Holzman Pfeiffer Associates, Architects
a wood windows: Architectural Building
onents. Steel doors: Overly Mfg. Co. Plaster
ation: Evergreen. Exterior lighting: Histori-
ts & Castings, Inc. Platform lift: Dover.
ior fixtures: St. Louis Antique Lighting Co.

s 72-75
re Bank
g Eizenberg Architecture, Architect
ior luminaire: Kim Lighting. Glazed walls:
eer Co. Linear downlights: Zumtobel.
ssed downlights: Edison-Price. Wallwash fix-
: Elliptipar. Entrances: Trident Doors. Pulls:
craft. Skylight: Kalwall Corp. Acoustic
g: Armstrong. Paints: Dunn-Edwards. Floor-
orbo. Carpet: Lee's. Maple furniture: custom
chitects. Tables: Vecta. Elevator: Dover.

s 76-77
rearley School
Byard Dovell Architects
in wall and operable windows: EFCO.
ng: U.S. Intec.

s 78-83
Taper Center/Inner City Arts
ael Maltzan Architecture
nol & Radziner Architecture, Architects
ior windows: Western Integrated Metals. Alu-
m storefronts; Kawneer Co., Inc. Resilient
ng: Forbo. Sound-control doors: Industrial
stics. Roofing: Schuller International.

s 86-91
Wolfsonian
Hampton, Architect
house cladding: Dryvit Systems. Indirect
ng: Lightolier. Power-data distribution: The
mold Co.

s 92-95
ers Center
Odle McGuire & Shook Corporation,
itects
rior restoration: ProSoCo. Replica metal
g; standing-seam roofing: MM Systems. Foun-
n coating: Thoro System Products. EPDM
ng: Carlisle. Replica exterior doors:
grens. Interior doors: Weyerhauser Co. Sky-
s: Lin-El. Entrances: Kawneer Co. Canopy
ng: Viracon. Paints: Sherwin-Williams.
stic ceilings: USG Interiors. Acoustic wall
ls: Conwed. Exterior lighting: Bega.

96-97
onal Minority AIDS Council
E, Architects
l windows: Huttig. Desk chairs: Herman
r. Panel fabric: Knoll. Ceiling and wall fix-
: Artemide, Inc. Track lighting: Lightolier,
Elevator: Otis. Vertical platform lift: National
el-O-Vator Co. ■

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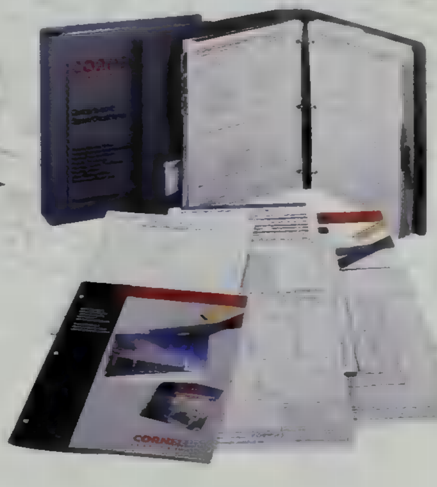

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Calendar *continued*

Call 818/906-2700; fax 906-0367 for details.

April 17-18

Buildings/New York exhibition and trade show of building products from 450 manufacturers; New York Coliseum. Call 203/840-5608 (attendees) or 203/840-5808 (exhibitors).

Through April 14

"A Recent View of Architecture: Photographs by Paul Warchol" exhibition; National Building Museum, Washington, D.C. Call 202/272-2448; fax 272-2564 for more information.

Through April 19

"Six Bridges: The Making of the New York Megalopolis" at the PaineWebber Art Gallery, 1285 Avenue of the Americas (51st Street), New York City. An exhibition of the six bridges designed by Othmar H. Ammann. Call 212/713-2885 for information..

May 3-11

New York Interior Design Week includes a week of programs at various museums and cultural institutions. An interior-design showcase at The Ansonia will involve a team of designers recruited to solve common interior problems in apartments at the Upper West Side landmark. Call American Society of Interior Designers/Metro New York Chapter, 800/338-4411, for further information.

May 10-13

AIA National Convention & Exposition, Minneapolis Convention Center, Minneapolis-St. Paul. This year's theme is "the value architects and allied professionals provide the building industry." Over 100 seminars workshops and consultations are scheduled. Call 617/859-4475 for more information.

May 14-16

Lightfair International, Moscone Center, San Francisco. Call 404/220-2217; fax 220-2442 for details.

Competitions

- Entries to the Ecology Design Awards competition (ECO Awards) are due March 1. Sponsored by Wilkhahn, Inc., the competition seeks to recognize contract and residential interiors projects that are ecologically sound, visually appealing, and comfortable. Call 212/486-4333; fax 486-4334 for details.
- Entries to the Benedictus Award competition for architectural projects using laminated glass are due March 1. Call 202/393-5247 for information.
- Hong Kong international competition for a monument commemorating its return to Chinese sovereignty in 1997. Entry deadline: May 1. Write The Oval Partnership Ltd.,6/F, Wing On Cheong Building, 5 Wing Lok St., Central, Hong Kong, Attn.: Ms. C. Wong.■

Correction

A model shot on page 26 of the January 1996 RECORD should have been credited to Tom Bonner.

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CALL FOR ENTRIES

RECORD INTERIORS 1996

The editors of ARCHITECTURAL RECORD announce the 27th annual RECORD INTERIORS awards program. This program is open to any registered architect; work previously published in other national design magazines is disqualified. Of particular interest are projects that incorporate innovative programs, building technologies, and use of materials. There is an entry fee of $15 per submission; please make checks payable to ARCHITECTURAL RECORD. Submissions must also include plan(s), photographs (transparencies, slides, or prints), and a brief project description bound firmly in an 8½ by 11-in. folder—and be postmarked no later than April 30, 1996. Winning entries will be featured in the 1996 RECORD INTERIORS. Other submissions will either be returned or scheduled for a future issue. If you would like your entry returned, please include a self-addressed envelope with appropriate postage.

Submissions should be mailed to:
Karen D. Stein
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Judging: Entries will be judged on originality, clarity, elegance, and the extent to which the computer's unique abilities are used. The 1996 jury includes Tucker Viemeister, vice president product design at Smart Design, Inc.; Deborah Berke, a New York City-based architect; and another judge to be named.

Prizes: Luna Imaging, Inc., Venice, Calif. (http://www.luna-imaging.com), offers this year's prizes. First Prize: *Frank Lloyd Wright: Presentation Drawings*, an award-winning CD-ROM collection of nearly 5,000 drawings of more than 860 projects spanning Wright's career. Value: $1,500. Two second prizes will be awarded: *Houses of Frank Lloyd Wright*, a CD-ROM containing more than 1,000 drawings and photographs value: $199. Winning entries will be published in the June 19 issue of ARCHITECTURAL RECORD and exhibited at the A/E/C/SYSTEMS '96 computer exposition.

Rules: Projects delineated can be real, potential, or speculative, but they must not have been previously publishe in a design or computer journal as either editorial or advertising. Images prepared solely for promotional use by manufacturers are also ineligible. An entry may be created o any platform, using any hardware or software. Submit hard copy (maximum size 11 in. by 17 in.), 35mm slides, or VHS cassette (the latter only for animations). Submit single image except where a suite of images is essential to describe the concept. Entries must be received by Wednesday, March 18, 1996. Entries remain property of owner, but may be republished in print and electronically. Entries accompanied a stamped, self-addressed envelope will be returned. Queries 212/512-4256 (fax); jarussel@mcgraw-hill.com (e-mail).

There is no entry fee, but information below is required for projects to be judged

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Client

Company

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City

State

Zip

Phone Number

Fax Number

Name of any firms providing imaging or output services

Please tell us the hardware, software, and output devices you used. List by company and brand name (i.e., Autodesk AutoCAD 12, Apple Power Macintosh 6100).

Names of collaborators (firms or individuals) who should be credited

Software 1	Software 2	Software 3	Software 4
Hardware 1	Hardware 2	Hardware 3	Hardware 4
Output 1	Output 2	Output 3	Output 4

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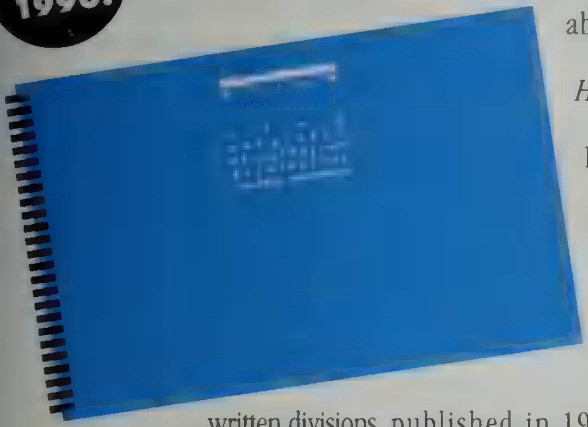

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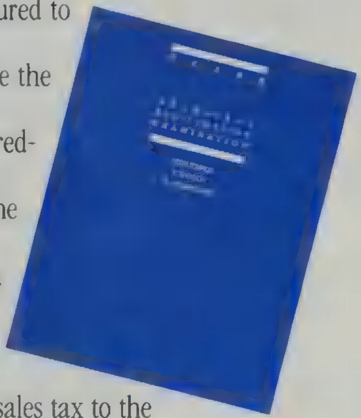

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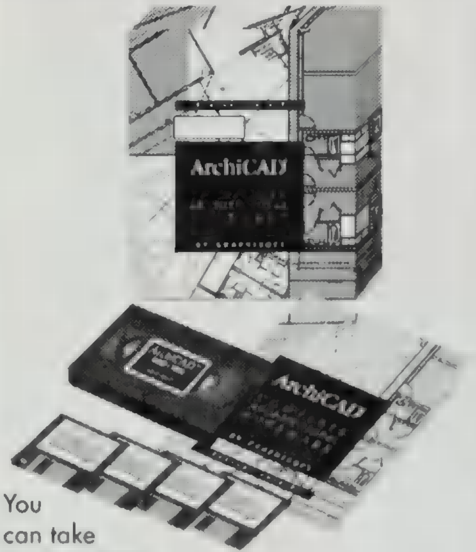

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Redesigning the Architect *from page 35*

tecture because they want to design and build buildings, such a profound redefinition of the field raises disturbing questions. Yes, it's easy to say that if you can design a building, you can "design" a business or a project-delivery process. But the increasing desire on the part of clients for non-traditional services also suggests that they value less what design can offer and value more the management skills of the CM, the design/builder, and the coordinating, envisioning, and strategic outlook of the management consultant. For any architect contemplating the restructuring of his or her career or firm, some fundamental issues must be addressed.

•*Responsibility and accountability:* Is the architect's documentation and site-observation role regarded as less important these days because architects don't have the skills to do the job properly or because they've ceded these tasks to others? It is no coincidence that AIA's Documents committee and the Risk Management committee are key players on the AIA's Practice and Prosperity task force.

As Weld Coxe, Richard Hobbs, and others have observed, clients want responsibility and accountability from their design and construction teams. Over the past two decades, liability-insurance providers succeeded in intimidating architects with premium increases and exclusions of services deemed uninsurable. When architects declined to provide high-risk services, such as the discovery and remediation of hazardous materials, others seized the opportunity. But insurers have now recognized that architects who limit their services due to liability fears are also limiting their competitiveness. "Insurance shouldn't shape practice," declared Ava Abramowitz, vice president of Victor O. Schinnerer & Co., at the recent AIA summit on expanding architectural services. "You figure out how to do projects and assertively pursue practice, and we will figure out how to insure it."

•*The place of building design:* Is it a coincidence that firms that have pioneered non-traditional services don't typically win major design awards or public acclaim? Indeed, there's no long-term evidence that "client-driven" buildings are any better than those designed according to traditional means. Both building types and building technologies are becoming more demanding than ever, and it could be argued that the firm that offers too many services stretches itself too thin. There is ample evidence that clients still desire beauty, a transformativ design approach, and a unique artistic visi as long as the project is built well, on time and on-budget. Otherwise, such traditiona service-oriented firms as Ellerbe Becket, Perkins & Will, and The Hillier Group wo not feel driven to hire major design talent develop it from within.

•*Generalized versus specialized:* Will the practitioner intent on remaining a genera go the way of the family doctor who make house calls? As large firms become more diversified and comprehensive, small firm and specialized firms are repositioning th selves to take advantage of new markets. Some architects have chosen the specialis role to capture demanding market niches such as research labs, accessibility design indoor-air quality design. At the same tim the role of generalist coordinator becomes increasingly valuable. The burden on the eralist is to enhance her management skil while keeping up on developments in the cialties.

A number of architects are exploring way maintaining a traditional atelier-type desi firm while addressing today's clients' bro needs. A more formalized version of incre ingly popular joint ventures and associati is Louis Marines' Strategic Team of Allie Resources (S|T|A|R), in which firms of diverse skills and geographic coverage market their services jointly and exploit l networking efforts to benefit member fir

With a dearth of big jobs, smaller, younge high-design firms increasingly find themselves competing with much larger, more established firms. In California, Robert M gurian, Mark Mack, Stanley Saitowitz, R Sherman, Burrish & Guthrie, and Daley Genik have formed a loose joint-marketin alliance to reduce each firm's cost and compete with the resources of larger firm

There's no risk-free path into the world o non-traditional services. Those who simpl surf the waves of market forces may wipe when the tide shifts. The experience of th architects who deeply question traditiona methods suggests that architects can suc without jettisoning the values that motiva them to enter the field. ■

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146. Coiling fire doors
Labeled fire doors from Cornell offer new configuration and installation options, including a rolling counter fire door with a fire-resistant laminate sill. Pictured undergoing the hose-stream part of the UL 1 1/2-hr. test procedure, these doors can be mounted to drywall, wood studs, or metal frames, as well as concrete block or poured concrete. A restyled roller guide, smaller and more compact, presents a less-obtrusive profile; the bottom bar can incorporate a concealed locking device. Also new are horizontal doors that close floor openings of all kinds, such as escalators, and are capable of supporting a person's weight. Literature lists sizes, finish options, and detail drawings. 800/233-8366. Cornell Iron Work, Inc., Mountaintop, Pa.

147. Redwood siding guide
Redwood siding and paneling comes in a variety of grades, patterns, and textures to meet specific design and budget needs, and is decay- and insect-resistant without treatment. Lumber grade rules and appearance criteria are included in a new manual offered free by the trade association for redwood mills. 415/382-0662. California Redwood Assn., Novato, Calif.

148. Historically correct. Th
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maker's Ashford windows and pati
doors have been refined for a more
traditional profile without compro-
mising the thermal performance of
the unit's insulating glass. Narrow
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The editors of ARCHITECTURAL RECORD are looking for projects both completed and on-the-boards to be shown in the fourth annual Pacific Rim section. Projects must be in the Asia/Pacific Rim region and can not have been previously published in any other U.S. design magazine.

Deadline: April [illegible] 1996
Submissions should be
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We are particularly interested in projects that exhibit innovative solutions to important design challenges, such as:

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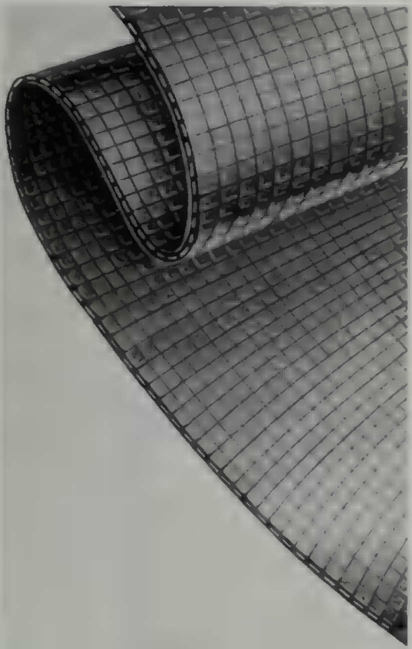
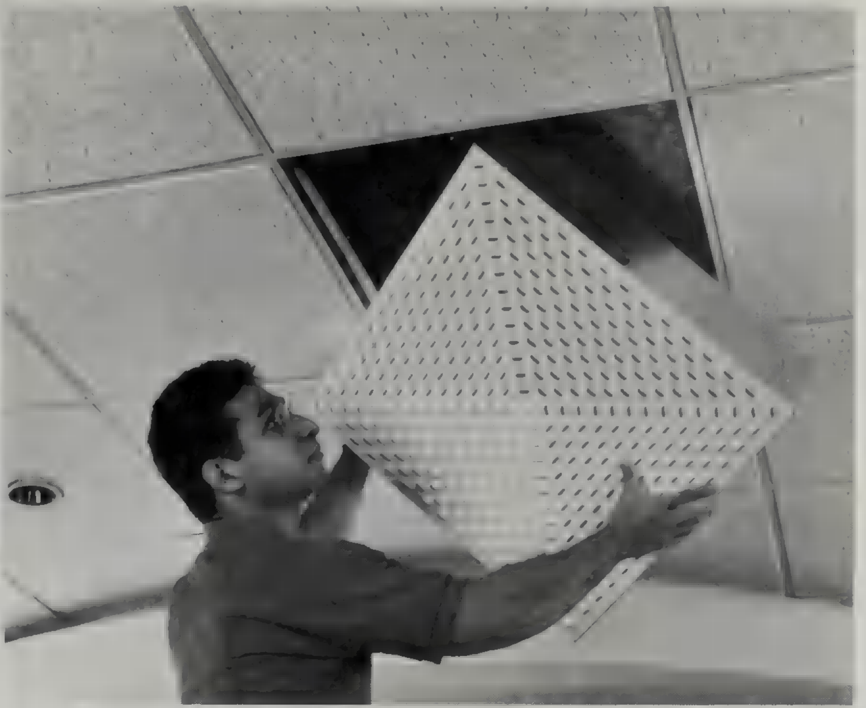
- Utilizing new architectural technologies.

Submissions should include:
1 Good photography (color
transparencies or slides).
2 Floor plans, site plan, and
any other drawings that he
explain the project.
3 A short project description

All architectural firms involve
in the project must be given
proper credit. Projects shoulc
have been completed no mo
than 2 years ago.

If you would like your submission returned, please include a self-addressed envelope with appropriate postage.





9. RF-proof door system. r MRI doors, a new Auto-Seal laces gaskets and contact finger vices with a concealed, pneumat- lly operated expansion strip. The seal is activated only when the or is closed, minimizing the chance damage to the door edge and main- ning the integrity of the RF shield. n be retrofit. Lindgren RF Enclo- res, Inc., Glendale Heights, Ill.

150. Anti-uplift EPDM. Furnished in 100-ft-long rolls either 7.5- or 10-ft wide, GenFlex FRM is made with a polyester-fabric reinforcement for superior tensile strength to resist strong wind-uplift conditions. Installation is either disc-in-seam or fully adhered method; available in black, membrane is 45- or 60-mils thick. 800/443-4272. GenFlex Roofing Systems, Maumee, Ohio.

151. Dimpled air diffusers. Cited as the solution to common indoor-air quality problems, the Valid Air diffuser has an unusual dimple-jet design said to achieve air distribution superior to conventional ceiling units. These "jets" direct high-velocity air flow in a multi-directional pattern parallel to the ceiling, without cold-air downdrafts, and eliminate stagnant air pockets where poor-quality, contaminated air can accumulate. Air flows down the wall and up through the center of the room, increasing the effective draft temperature: occupants feel cooler even at higher thermostat settings. Each diffuser can be fitted with optional built-in filters to clean system air before it enters a space. 305/556-6933. Warren Technology, Hialeah, Fla.■

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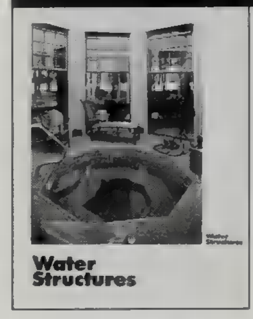
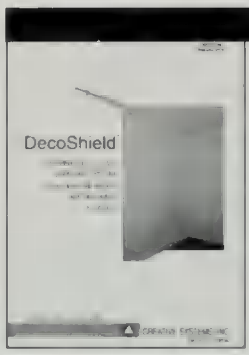


152. Spas and fountains
A four-page color brochure illustrates custom therapeutic and recreational pools for resort, home, and healthcare use. Installations can be specified with tile surrounds, waterfalls, resistance-swim equipment, and built-in seating. Units are shipped fully prefabricated and finished in tile or natural stone. 800/747-0168. Water Structures, Hamilton, Mass.

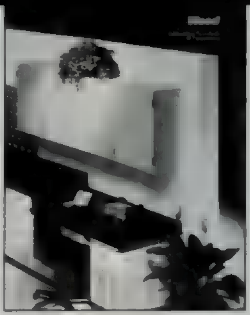
153. Fabric protection
Literature describes Teflon as a water-based finish that forms a mc cular shield around fabrics used in upholstery, draperies, and wallcove ings. Said not to effect the hand, color, or breathability of the fabric Teflon treatment helps furnishings retain an as-new appearance even under high-traffic conditions. 302/7 3440. DuPont Co., Wilmington, De



154. Fire-sprinkler retrofit
Conforming to NFPA 13 and UL, the DecoShield system is a modular cover/support assembly said to permit easy post-occupancy installation of metal- or plastic-pipe sprinkler systems. Resembling a decorative crown molding, covers can carry other services such as cables or medical-gas pipe. 800/873-0894. Creative Systems, Inc., Janesville, Wis.

155. Laminated-glass guide
A free binder includes descriptive and technical data for laminated safety glass; Slopelite laminated s lights; Superguard institutional glazing; Riotguard burglar-resista glass; Vistaguard bullet-resistant glass; and Superguard Plus glass- polycarbonate. Fax letterhead requests to 215/721-0402. Laminat Glass Corp., Telford, Pa.

156. Diffused-light skylights
Pre-engineered with a box-beam aluminum support structure, glare-free Clearspan lightweight skyroofs can be designed in configurations such as pyramids, segmented domes, and squares, glazed with Kalwall reinforced-fiberglass sandwich panels in a range of U- and light-transmission values. 800/225-3895. Structures Unlimited, Inc., Manchester, N.H.



157. Laboratory casework
Catalogs show casework for schoo industrial, and healthcare environ ments in either wood or metal constructions to suit budget and design requirements. Line drawin and exploded views demonstrate h system components work togethe 414/793-1121. Fisher Hamilton Sci tific, Inc., Two Rivers, Wis.
Continued on page 127

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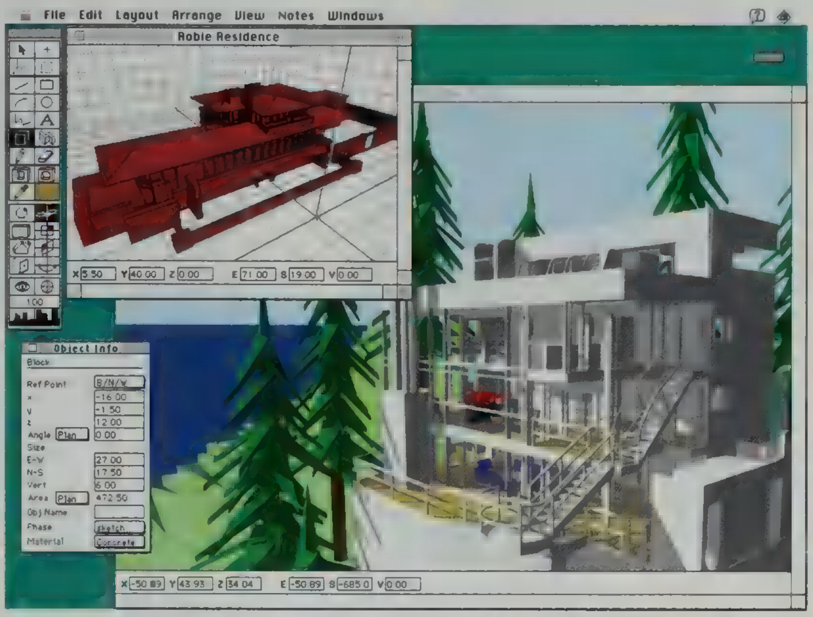

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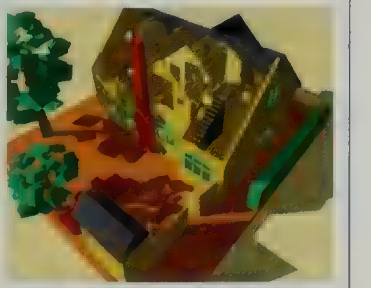
Models evolve with your ideas from concept through detailing



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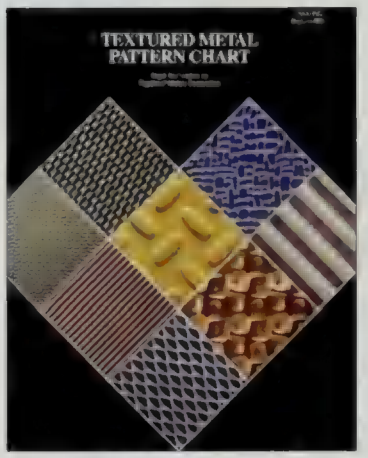

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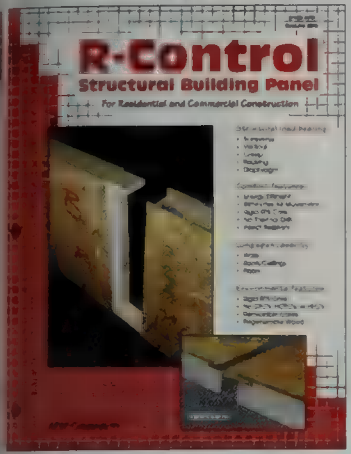
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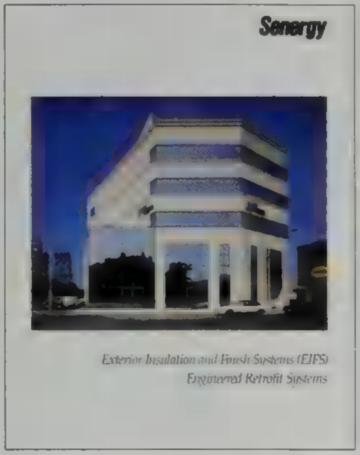
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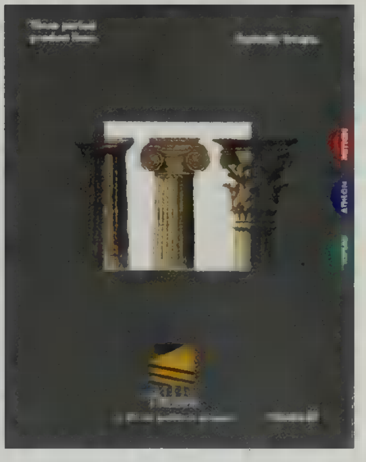

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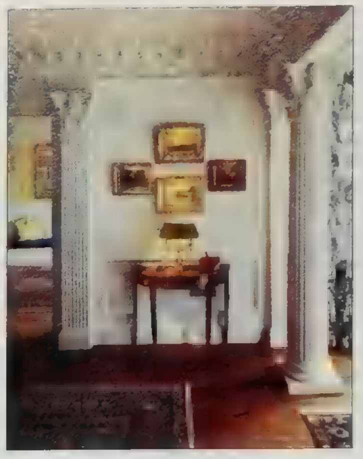
Manufacturers' Spotlight

Chadsworth's 1.800.Columns

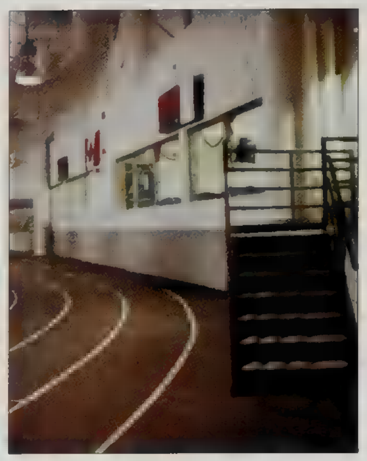


CHADSWORTH's 1.800.COLUMNS chosen #1 by *Professional Builder* readers. Wood, Fiberglass, Stone, Polyester, E.P.S., Marble. Interior, Exterior. All sizes. Round, square, octagonal with plain or fluted shafts. Job site delivery. Worldwide shipping. Competitive prices. Largest selection anywhere. All this and one easy number to remember... 1.800.COLUMNS. 1.800.265.8667. Free brochure.

Chadsworth Columns

Circle 91 on Inquiry card

Tuflex Flooring Adds New Colors

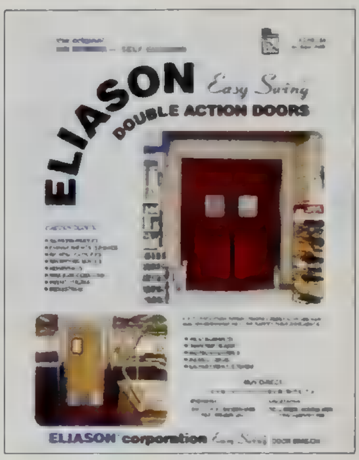


Tampa, FL. January 3, 1996 -- Tuflex Rubber Products flooring was originally designed to withstand golf shoe spikes, but because of its durability and versatility has evolved into an all-purpose floor that can be found in many hockey and skating arenas, locker rooms, and school gymnasiums. Tuflex is available in 25 colorful designs, and meets ADA requirements, public safety and reduction needs. Call 1(800) 543-0390 or fax (813) 875-2312 for a free creative flooring design brochure and product specifications booklet. Tuflex Rubber Flooring, 4521 W. Crest Ave., Tampa, FL 33614. Phone 1(800) 543-0390. Fax(813) 875-2312

Tuflex Rubber

Circle 92 on Inquiry card

Double Action Doors



Eliason has released a new 1996 color illustrated Price/Spec catalog on Easy Swing doors. Complete specifications, Doors are gravity operated, open with a light nudge and close automatically. Many sizes, styles and decor options. Use in light, medium or high impact traffic doorways. Sold direct. Catalog is sent no charge.

Eliason Corporation, P.O. Box 2128, Kalamazoo, MI 49008

Eliason Corporation

Circle 93 on Inquiry card

Classic Colu by Melton Cl

From the Clear Redwood Classic™ the DuraClassic™ P column to the FRP Fiberglass column co line of stain-grade Melton Classics offers for every architectur need. Constructed with the Classic Architecture, the Classics column line is none in quality, au availability and trad yet is affordably pric toll-free at (800) 963 free catalog or quot

Melton Classics

Circle 94 on Inquiry car

Ancor produces over fifty No. American and imported granites in a full range of colors and finishes for residential, commercial and institutional use. Standard format is 12 x 12 x 3/8", other sizes up to 18 x 18 x 1/2" available. Honed finish, [illegible] is particularly suitable for high traffic commercial areas. 475 Port Royal West, Montreal, Quebec [illegible] Canada. [illegible] (514) 385-93[illegible] [illegible] (514) 382-3531

[illegible] Granite

[illegible] Inquiry card

Duraflake FR fire-rated particleboard

Duraflake FR provides Class A fire protection in wall systems, store fixtures, furniture and case goods. It has a UL flame spread rating of 20 and a smoke developed rating of 25. Its smoothness, machinability and uniformity make it an ideal substrate. It even resists warping and won't leach chemicals. Call (541) 928-3341.

Duraflake

[illegible] on Inquiry card

Roof Penetration for New & Retrofit

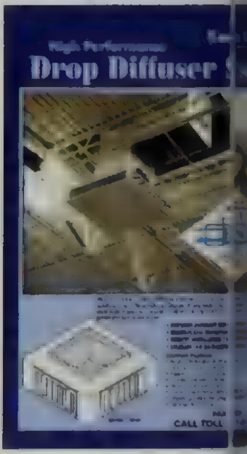
Roof leaks are devastating
...to your building and to your budget!
Proper roof penetration is smart prevention!
ROOF PRODUCTS, INC.

Before you purchase or specify rooftop equipment, contact Roof Products, Inc.. They have the knowledge, experience and the technical staff to analyze the project and determine the best applications for a leak-free, cost-efficient job. RPI will supply the solution and the curbs, adapters, and other accessories to change equipment without disturbing the roof or sub-structure. For brochure 800-262-6669.

Roof Products, Inc.

Circle 97 on Inquiry card

High Perform Drop Diffuser S



Exclusive Air Divert by Custom Cu provides super-low quiet operation anc air distribution. It installation costs c nates expensive c Offers maximum co efficiency in ceiling cations such as re stores, manufactur and other places distribution poses Factory assemblec models offered inclu Profile. 1-800-251-30

Custom Curb, Inc

Circle 98 on Inquiry car

Workshops

Self Study

Costs

Financial management

Profits

arketing

Clients

Video

Professional development

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96 Continuing
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Welcome to the 1996 AIA Continuing Education Products Brochure! On the pages inside you'll find many old friends, such as our best-selling *Assessment Self-Study Diskettes* and *Workshops-in-a-Box Series*, which continue to provide solutions for the design professional's development needs across the country. We introduce some new self-study products, such as *The ADA Computerized Self-Study Assessment*, an educational tool that is also one of the most powerful ADA search tools on the market! For the marketing-oriented we offer two entries, *Lead-Finding Video Set* and *Mandeville: A Guide for the Marketing of Professional Services* by Professional Development Resources, Inc. And two powerful resources are here to help you in your self-designed learning projects: *Contracting For CADD Work: A Guide for Design Professionals* and possibly the ultimate reservoir of knowledge, *The Architect's Handbook of Professional Practice.*

Now into its second year, the AIA Continuing Education System (AIA/CES) is creating new learning opportunities almost daily. You're invited to access the AIAOnline database of continuing education (CE) providers for our complete inventory of A/E-oriented programs with descriptions and contacts. We've listed just some of our premier providers here in a short A/E Education Yellow Pages.

Along with our listing of the number of AIA learning units listed for each CE product, we've included the number of contact hours established for completing the program. This should help you in recording your work for Iowa, Alabama, and Florida state requirements. We're pleased to announce that our *Self-Study Special*, featuring all three self-study diskettes; the *Buildings at Risk Seismic Design Basics for Practicing Architects* program; and the project administration, construction contract administration, and financial management *Workshops-in-a-Box* programs are all approved for credit under the Florida State Board requirements.

Whether you are an experienced practitioner or new to the profession, we are confident that here you'll find time-tested, learner-centered tools and techniques that can help you prosper in your practice.

Warmest regards,

Mark Scher

Mark Scher, Director of Continuing Education
Programs and Products

The Practice Curriculum

At A Glance

Title	Format	Contact Hours/ Learning Units	Price	Order #
ADA Computerized Self-Study	c	10/30	$142/99 AIA	W181
ADA Design Tools Workshop	b	7.5/22.5	Call for rates, 20 person minimum	Call (202) 626-7479
Better Practice Management Assessment	a	2/6	$50/35 AIA	J203
Better Practice Management Workshop-in-a-Box Materials	b	7.5/22.5	$65/$45.50 Coord. $22/15 Part.	J203-C J203-P
Buildings At Risk: Seismic Design	a,d	20/60	$93/65 AIA	W113
Construction Contract Admin. Assessment	a	2/6	$50/35 AIA	J199
Construction Contract Admin. Diskette	a,c	3/9	$56/39.20 AIA	W163
Construction Contract Admin. Workshop-in-a-Box Materials	b	7.5/22.5	$65/$45.50 Coord. $22/15 Part.	J199-C J199-P
Construction Contract Admin. Workshop	b	7.5/22.5	Call for rates, 20 person minimum	Call (202) 626-7479
Cost Estimating Assessment	a	2/6	$50/35 AIA	J195
Cost Estimating Workshop	a	7.5-12/22.5-36	Call for rates, 20 person minimum	Call (202) 626-7479
Contract Documents Assessment	a	2/6	$50/35 AIA	J196
Contracting For CADD Work: A Guide for Design Professionals	a	participant determined	$22.75/17.50 AIA	W184
Financial Management Assessment	a	2/6	$50/35 AIA	J198
Financial Management Diskette	a,c	3/9	$56/39.20 AIA	W164
Financial Management Workshop-in-a-Box materials	b	7.5/22.5	$65/$45.50 Coord. $22/15.40 Part.	J198-C J198-P
Financial Management Workshop	b	7.5/22.5	Call for rates, 20 person minimum	Call (202) 626-7479
Lead Finding Video Set	a,d	5.5/5.5	$380/266 AIA	W182
Mandeville: A Guide for the Marketing of Professional Services	a	Participant determined	$89/62.30 AIA	W183
Project Administration Assessment	a	2/6	$50/35 AIA	J197
Project Administration Diskette	a,c	4/12	$70/49 AIA	W160
Project Administration Workshop-in-a-Box materials	b	7.5/22.5	$65/$45.50 Coord. $22/15.40 Part.	J197-C J197-P
Project Administration Workshop	b	7.5/22.5	Call for rates, 20 person minimum	Call (202) 626-7479
Project Companion	a,c	10/30	$96/69 AIA	W161
Project Management 1-2-3 Templates	a,c	NA	$50/35 AIA	J194
Programming Assessment	a	2/6	$50/35 AIA	J200
Programming: Communicating With Clients Workshop-in-a-Box Materials	b	7.5/22.5	$65/$45.50 Coord. $22/15.40 Part.	W165-C W165-P
Programming Workshop	b	7.5/22.5	Call for rates, 20 person minimum	Call (202) 626-7479
Seismic Windloads Book	a	15/15	$50/35 AIA	R660-90
Firm Special: 3 for $33 each (Diskettes)	a,c	10/30	$142/99 AIA	W160, W163, W164
The Architect's Handbook of Professional Practice	a	Participant determined	$200/140 AIA	M107-94
Winning Public Design Contracts Workshop	b	7.5-12/22.5-36	Call for rates, 20 person minimum	Call (202) 626-7479

Key a. Self-Study b. Instructor-Led c. Computer-Based Programs d. Video-based

"This type of information is *zealously* *and jealously guarded* by Principals from their employees."

omputer Self-Study

e Assessment Self-Study Diskette Series mbines to-the-point explanations, graphical sults displays, and computer technology. u'll find explanations and resources, d save hundreds of dollars in time and avel. Learn at your convenience at home work.

elf-Study Diskettes include:

- Stand-alone programs for DOS-compatible computers and MACs running PC emulation programs
- Confidential scoring of your answers
- A context for comparison showing how design firm experts and architects across the country responded to the same questions
- Feedback on all of the multiple-choice questions
- Easy-to-use directions and program documentation
- The knowledge and years of experience of leaders in the profession
- AIA/CES learning units and continuing education contact hours. (e.g., you'll receive 24 learning units/10 contact hours for the Firm Self-Study Special listed here.)

inancial Management: Make he Money and Keep It!

Vhether you've managed a firm for years or ream of going out on your own, there are ssential financial concepts you must know! his management tool helps you assess your nowledge on the key financial issues of anaging your firm.

39.20 AIA / $56 nonmembers; order# W164

onstruction Administration: ou Don't Want to Be A Lawyer. ou're An Architect!

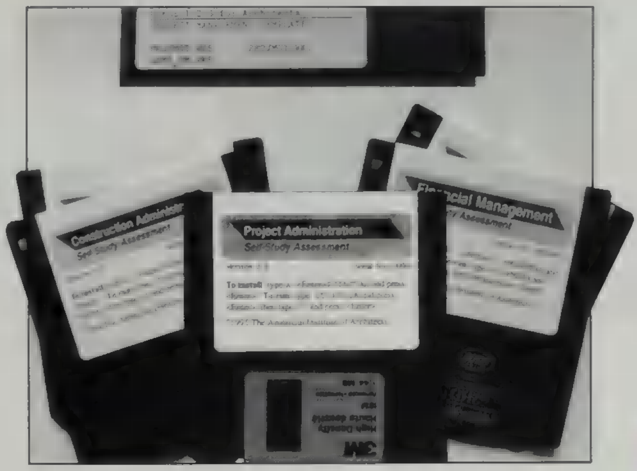
nprove your knoledge of this contentious area; xamine contracts, change orders, liability onsiderations, and more.

39.20 AIA / $56 nonmembers; order# W163

Project Administration Diskette: Are Your Projects On Time and On budget?

Even seasoned project management veterans will find essential project concepts you here. You'll earn 12 AIA learning units after completing this program and learning about:

- Financial indicators—for evaluating your projects' status and success
- The language of automated/network scheduling
- Software checklists—important questions to ask before you purchase project software



- Flow charts—track project activities from pre-contractual through post- construction services
- Management tips—good, solid, "tricks and traps" gleaned from practitioners across the country
- Downloadable references—build and add to your own word processor

$49 AIA / $70 nonmembers; order# W160

● *NEW!*

ADA Computerized Self-Study: Find It Fast Searchware!

(Includes the complete act and ADA Title 3 Guidelines at your fingertips with comprehensive index searching.)

Thoughtful but easy to use question-and-answer-assessment approach provides a strong overview of the Americans with Disabilities Act (ADA) and key implications the act has for design professionals. Self-scoring pre and post-study test helps you delve into the specifics of the ADA and focus on the areas of accessible design you need to study more thoroughly.

You'll gain quick access to the ADA information you need and greatly reduce your research time with this computerized version of the law, Federal Register commentary, and Title 3 guidelines. Computer disks provide search, cross-indexing, and clipboard functions for ease in finding key references for your research and project documentation. This package is a powerful DOS-format application software for IBM-compatible computers specially developed for the AIA. The program is worth 30 AIA/CES learning units over 10 contact hours. Systems Requirements: DOS-compatible computers. (Mac users can run the software using soft PC or soft AT emulation programs.)

$99 AIA / $142 nonmembers; order# W181

Special Offers

Firm Self-Study Special

(3 for $33 each for AIA members) Receive the new Project Administration diskette and our two best selling practice improvement diskettes Construction Administration and Financial Management. Earn 24 AIA CES Learning Units (10 contact hours). Everyone gets 20% off individual prices.

$99 AIA / $142 nonmembers; order# X212

Project Companion

(20% saving!) Project Administration Diskette and Project 123 Spreadsheet Templates. Save 20% over the individual pricing. The templates generate reports on project and employee work summaries, and total cost.

$69 AIA / $96 nonmembers; order# W161

“This is an absolute *eye* opener for me.

I am preparing to enter private practice after 15 years of architectural employment . . . it is clear I am not ready!”

Project Management Templates

This popular template helps users develop a centralized project management database in one comprehensive spreadsheet using Lotus 1-2-3 software. The DOS-formatted template generates special reports for project summary, employee work summaries and total cost. A 36-page explanatory pamphlet is included.

$35 AIA / $50 nonmembers; order# J194

Video Self-Study

Consistency, and good quality content are the advantages of video courses. These materials are particularly suited for starting group and firm-wide discussions.

Buildings at Risk Seismic Design Basics for Practicing Architects

Learn how you can make well-informed decisions when planning and designing earthquake-resistant buildings with this self-study package.

This program was brought to you at a substantially reduced cost by a generous grant from The Federal Emergency Management Agency (FEMA). It is a culmination of over five years of seismic research and interactive workshops held nationwide.

Use this self-study package to:

- Understand the nature of ground motion and its impact on buildings
- Determine the potential impact of site conditions on seismic vulnerability
- Recognize the best and worst building configurations
- Know what is needed to work effectively with structural engineers
- Avoid nonstructural damage: the “hidden” risk in buildings
- Interpret seismic codes: the UBC, National Earthquake Hazards Reduction Program (NEHRP) Provisions, and Executive Order 12699
- Understand the growing field of remodeling/retrofitting existing structures.

60 learning units (LUs)/20 contact hours.

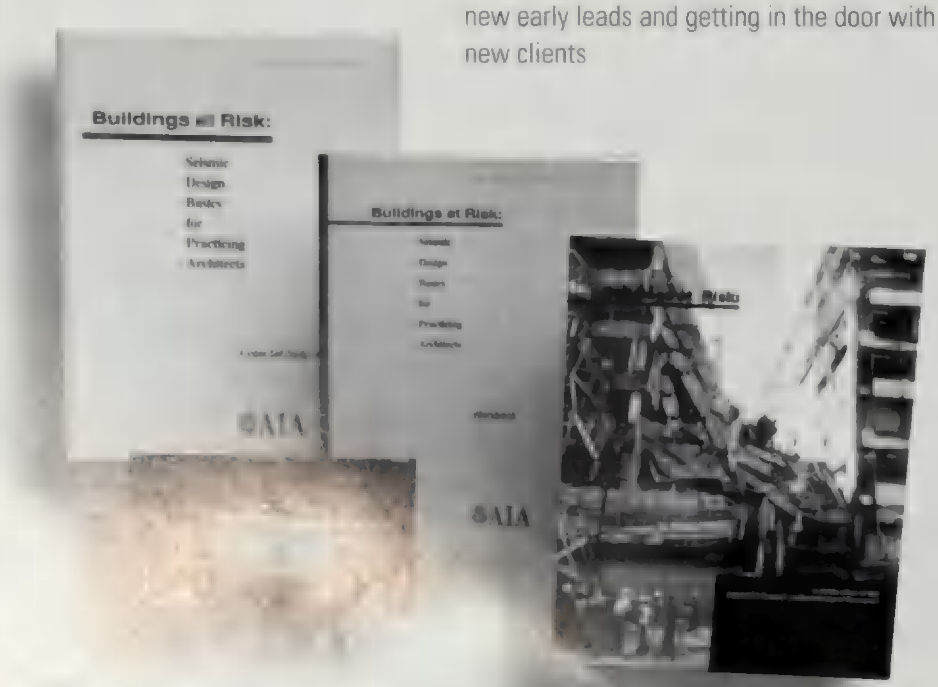
$65.10 AIA / $93 nonmembers; order #W113

Lead Finding Video Set

Finding early leads is a part of marketing in which everyone in your firm can contribute, but too many either don’t think about it or don’t know how. Produced by Professional Development Resources, Inc, this 5-hour, 4-video program helps everyone become more comfortable and effective at identifying new early leads and getting in the door with new clients

You’ll see strategic examples for uncovering early new project opportunities. Watch a mid-course feedback interview with a client c how and where you can build repeat and referral opportunities. Listen to candid conversations among professionals like yourself. Fir out how others are already using each of nine key early lead-find sources. Hear the results they’re experiencing.

$275 AIA / $358 nonmember order# W182



Education Books

Ideal references both for your practice and fo use in your self-designed learning projects fo AIA/CES credit!

● *NEW!*

Mandeville: A Guide for the Marketing of Professional Service

by Dr. Stuart W. Rose

You’ll learn the entire professional services marketing process, step by step. This book provides a complete conceptual framework that shows you what you need to do to secur the clients you’d like, in a manner that feels comfortable to you.

The process begins with how to identify the strongest market opportunities and client demands over the next three to five years an determine which are most appropriate for yo You’ll examine how to structure a clear and effective program for attracting clients.

You’ll explore alternative methods for comin into contact with prospective new clients, ho to create name recognition using different promotional media, build professional trust, and keep those people coming back through your career.

This beautiful leather-bound book serves as a quality professional reference perfect for designing your marketing approach and self-study programs.

$62.30 AIA / $89. nonmember order# W183

'Well prepared.

Covers, in general most problems of practice management."

AIA ***Continuing Education Brochure***

IEW!

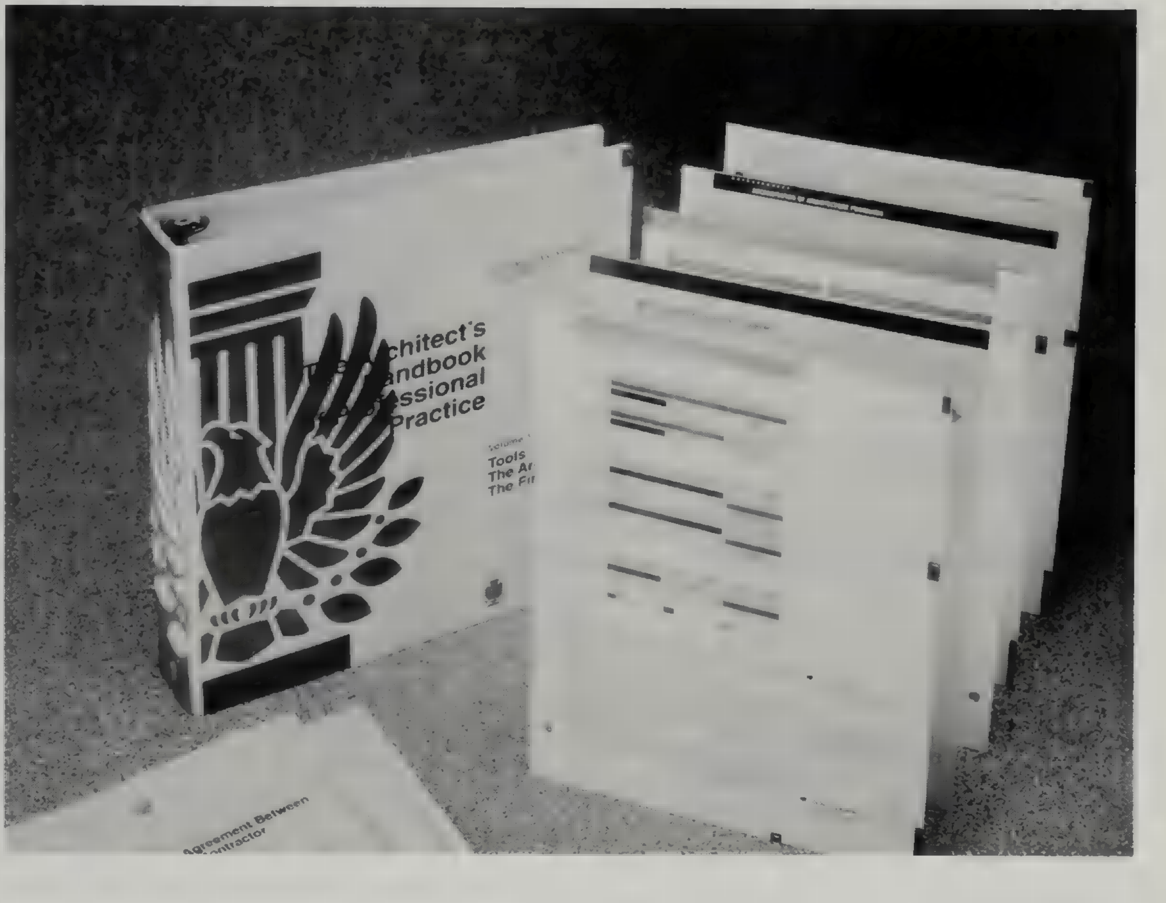
ontracting For CADD Work: A Guide or Design Professionals

y Michael P. Ingardia, PE, and John F. Hill, AIA.

ncorporate this book in your self-designed pro- ects and explore the real issues in effectively pplying a CADD system in your projects and esponding to client requirements. There are nany risk-management questions about the rofessional liability issues of delivering CADD les? You'll learn how to educate yourself, taff, clients, and other consultants about:

- Professional liability
- Compensation
- CADD contracting issues
- The CADD manager
- The real and often-hidden impact of CADD delivery requirements
- CADD-file transfer and dealing with compatibility problems
- Archiving and stability of the medium over time
- Contractual changes that are required.

17.50 AIA / $22.75 nonmembers; order# W184



he Architect's Handbook of rofessional Practice (12th Edition)

arn LUs by Studying the Handbook. Maybe you vant to know more about the expanding building lelivery systems that clients are craving, setting he cost of your next project so you're sure to nake a reasonable profit, or how to manage rofessional risk. *The Architect's Handbook of rofessional Practice* is one of the fastest, asiest, most cost-efficient sources you can find.

)r maybe you're looking for a career change r contemplate retiring and want to pass along r close your firm. One two-hour session with specialist consultant would easily cost more han the entire four-volume set of the Handbook and give you only a minuscule fraction of the knowledge packed into this ready desk reference.

The recently released 12th edition of the AIA publication that has defined the profession since 1917 is the most comprehensive, user-friendly Handbook ever and a source of knowledge that will satisfy the AIA/CES membership requirement to boot. A marvel of interwoven, thoroughly considered, and easy-to-traverse pieces, the 12th edition is a work of love, experience, and direction from editor David Haviland (an Institute Honors recipient) with the Rensselaer Polytechnic Institute, along with James Franklin, FAIA; Chris Clark, AIA; Ava Abramowitz, Hon. AIA; and many others.

How to do it

No matter whether your learning objective involves management of the firm, projects, finances, risk, or personnel; construction administration; firm transition; or career development, the Handbook contains the information to get you going.

$140 AIA / $200 nonmembers; order# M107-94

> *"Very Good idea! I know there are definite gaps in my knowledge and skill and wish the AIA et. al. would devote more time, i.e., seminars, etc. on this very important area (especially since most small firms go out of business because of lack of business skills, not design/technology skills!)"*

Self-Assessments

Self-assessments are carefully developed questionnaires for architects and other design professionals. You use the self-assessments to examine key areas of practice. Self-assessments can help you focus, plan, and design both personal and firm-wide professional development activities.

The questions and options may 'bring back' information you have forgotten. You may discover there are alternative approaches you have not considered. You take control of your own professional development in terms of direction and pace.

Select a 60-minute self-assessment and find out your strengths and weaknesses in a critical practice area. Your completed self-assessment is mailed directly to an independent scoring agency which then returns an overall score, a comparative peer score, and a list of resources to help increase your knowledge where a need is indicated and improve your skills. Each self-assessment is worth 6 LUs.

$35 AIA / $50 nonmember

Financial Management Assessment

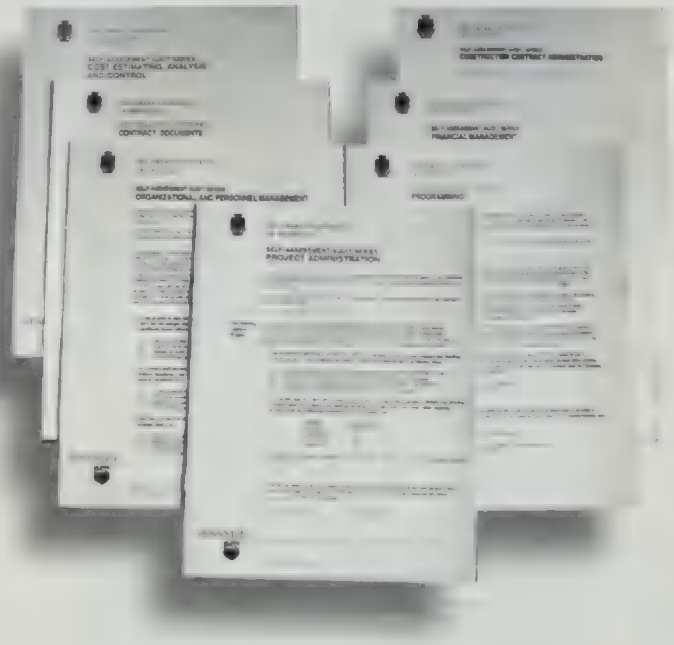
This tool is a must for principals and principals-to-be. Crucial questions are asked about what you need to know about the financial aspects of managing a firm. Topics range from focusing marketing plans and recognizing personal tax considerations to interpreting financial statements. Hardcopy (also available in computer format).

order# J198

Organizational Management Assessment

Whether you're starting or expanding your firm, this tool helps you assess your knowledge of the key [illegible] To [illegible] of employee record keeping, growth management, labor relations, and employee motivation. If you are now managing a firm or aspire to management, this confidential self-assessment will raise your awareness of concerns you need to know about.

order# J203



Construction Contract Administration Assesment

Examine your knowledge of contracts, change orders, liability considerations, and other related factors. Hardcopy (also available in computer format).

order# J199

Contract Document Assesment

Beginning with a short case study to provide context, this self-assessment covers key legal roles, AIA contract forms, planning drawing production, document checking techniques, and reference standards.

order# J196

Programming Assesment

Topics include clarifying initial project considerations, performing client needs analysis, determining data collection techniques, recognizing fundamental financial considerations, and programming across projects.

order# J200

Cost Estimating, Analysis & Control Assesment

More than half of the self-assessment users (57 percent) discovered weaknesses in developing accurate cost estimates. Topics include communicating cost estimates to clients, applying value engineering and life-cycle costing approaches, locating sources of cost data, and determining the best alternatives when cost estimates exceed the budget

order# J195

Project Administration Assessmen

This audit examines your knowledge about scheduling techniques, project accounting, staffing decisions, quality assurance, and resources. This is our most popular assessment. Hardcopy (also available in computer format).

order# J197

Workshops-in-a-Box

Everything your firm or component needs to organize your own workshop. Based on the self-assessments of the same names, these programs focus on the questions most frequently missed by architects and provide prac cal information and solutions that can be use immediately. (If you don't have a local author to lead a workshop, the AIA can do it for you a national workshop.)

Coordinator kits include an instructor's guide, overhead transparency masters, sample promotional materials, and evaluation forms. Participant guides include learning objectives

"Got me thinking

about questions that will
arise when my firm begins to expand."

est assessment I've had in a while!"

AIA Continuing Education Brochure

sessment questions, exercises, activities, d a pre-test for self-scoring. These modular ograms can be run for a full or half day or in a ries of one or two hours at a time distributed er sessions. Seven-and-a-half hours in total, .5+ LUs.

roject Administration: The Critical ath to Profitability

pics range from controlling overhead and pro- ct costs to evaluating financial performance, vering typical field problems and solutions, heduling, tracking multiple projects, and rsonnel.
ordinator kit $45.50 AIA members / $65 nmembers; order# J197-C
rticipant kits (each) $15.40 AIA members / $22 nmembers (five guide minimum); order# J197-P

onstruction Contract dministration: Better Approaches Tasks and Issues

'ith an emphasis on optimum approaches to sks and issues, this program offers guidance om some of the most experienced practition- s, lawyers, and risk management specialists the field. It examines contract interpretation, bility, and the construction contract change ocess.
Coordinator kit $45.50 AIA members / $65 nonmembers; order# J199-C
Participant kits (each) $15.40 AIA members / $22 nonmembers (five guide minimum); order# J199-P

Financial Management: Making the Money and Keeping It

Zero in on the most crucial financial issues design firms confront and tackle balance sheets and analysis, optimizing your collections, leasing, corporations, and internal controls.
Coordinator kit $45.50 AIA members / $65 nonmembers; order# J198-C
Participant kits (each) $15.40 AIA members / $22 nonmembers (five guide minimum); order# J198-P

Better Practice Management: Organizational and Personnel Management

Gain a wealth of practical knowledge in running a firm, planning, avoiding problems, and determining sources of information.
Coordinator kit $45.50 AIA members / $65 nonmembers; order# J203-C
Participant kits (each) $15.40 AIA members / $22 nonmembers (five guide minimum); order# J203-P

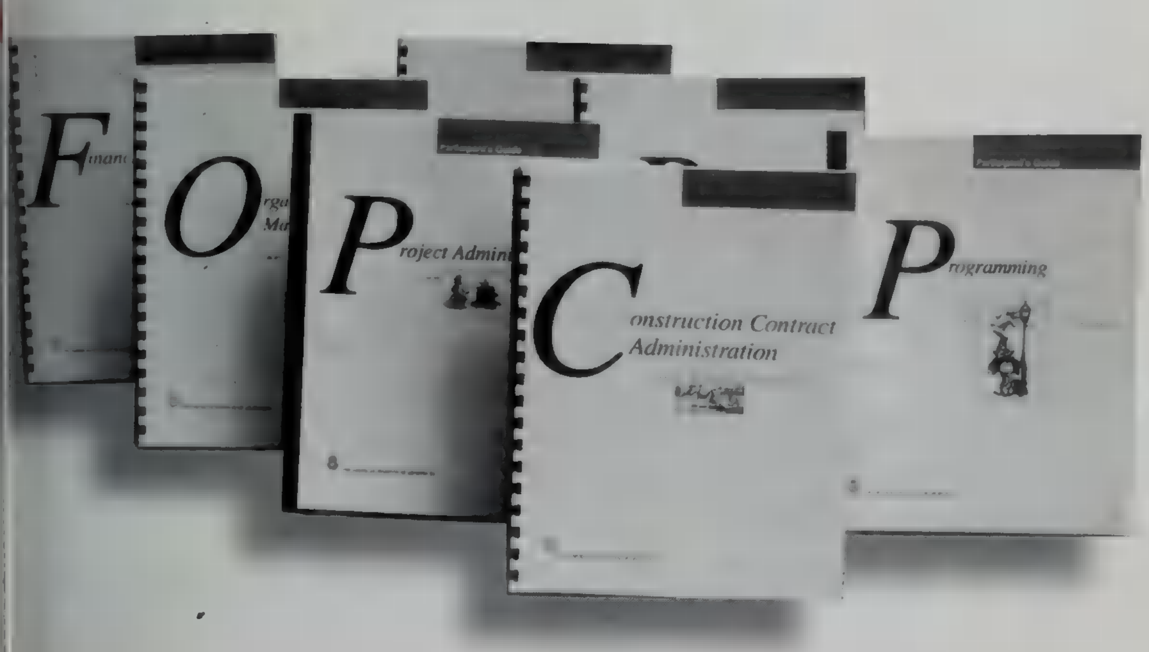
Programming: Communicating With Clients

Also titled Giving Clients What They Need, participants explore client goals, interviewing tools, create a custom checklist and basic programming financial questions. Contact AIA Programs and Products to order (202) 626-7479.
Coordinator kit $45.50 AIA members / $65 nonmembers; order# J165-C
Participant kits (each) $15.40 AIA members / $22 nonmembers (five guide minimum); order# J165-P

National Workshops

Available to chapters, firms, and other groups on request through AIA National Instructors:
(See Workshops-in-a-Box descriptions)
Taught by top specialists in their field, these workshops are available to chapters, firms, and other groups of 20 or more on request. Course fees depend on travel expenses. Call (202) 626-7479 for custom solutions.

The Future of ADA: Liabilities, Extended Services, New Opportunities
Cost Estimating: Clients Want It, How to Do It
Winning Public Design Projects
Project Administration: The Critical Path to Profitability
Construction Contract Administration: Better Approaches to Tasks and Issues
Financial Management: Making the Money and Keeping It
Better Practice Management: Organizational and Personnel Management
Programming: Communicating With Clients



A/E Education Yellow Pages
AIA/CES Premier Program Providers

The AIA Continuing Education Systems honors our charter members who support us [illegible] premier providers (as of October 1, 1995). For the latest information in educational resources in the design industry, contact:

ACCI Business Systems, Inc/Parkhill & Co.
(810) 649-1113
Project management and accounting software.

Apple Computer, Inc (310) 376-7054
Computer-aided practice seminars, program topics: Computing and CAD, documentation technology, design.

BEEDEE Corporation (206) 443-1010
Accounting computer software.

Blackridge, Ltd. (617) 239-1113
Practice and financial management, program topics: Management leadership issues, marketing, workplace issues, project management.

CSR Rinker Materials (407) 833-5555
Technical material specifications, program topics: Building codes and standards, design, [illegible] and extreme conditions, concrete [illegible] savings, architectural education and research, urban and regional design, environmental and energy issues, housing.

DPIC Companies, Inc. 800-227-4284
Professional liability insurance education, program topics: Project management, practice and risk management, design/build, management, leadership programs.

Federal Publications (202) 828-0262
Construction contracting matters, program topics: Design, project management, construction management, international architecture, practice and risk management.

Freudenberg Building Systems, Inc. (508) 689-0530
Program topics: Design, architectural education and research, and building technology.

Graphisoft 800-334-3468
Architectural computer graphic training.

Group Communications, Inc. (GCI) (713) 530-3690
Program topics: TQM, [illegible] management, [illegible] management, [illegible] leadership issues, [illegible]

[illegible] Corporation [illegible]
[illegible]

MAMECO International Inc. (216) 752-4400
Program topics: Design, documentation technology.

Milcare Inc. (616) 654-8056
Health-care environments, program topics: Design, health-care facilities, career, and workplace issues.

National Fire Sprinkler Association (317) 745-0536
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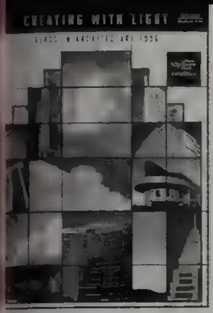

58. Glass in architecture
1996 catalog demonstrates the ar performance, loading, and thetics of all types of architectural ss, including EverGreen tinted at glass, Energy Advantage Low-E d Eclipse reflective glass, and spe-lty products such as Pyrostop e-rated glazing and Mirropane one-y glass. 419/247-4721. Libbey-vens-Ford Co., Toledo, Ohio.

159. Metal roofs and walls
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50. Lead-free coolers
is maker's 1996 catalog has 40 ges on water coolers and fountains offices, institutions, factories, and mes. Products include the Design 00 coolers with a filter that moves lead, odors, and other contaminants from supply water, and a uni-rsal housing said to fit easily into isting rough-in recesses. 708/574-84. Elkay Mfg. Co., Oak Brook, Ill.

161. Facade restoration
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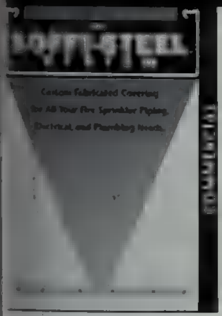

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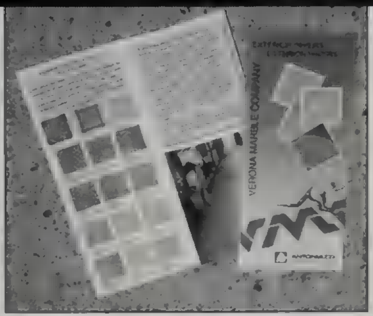

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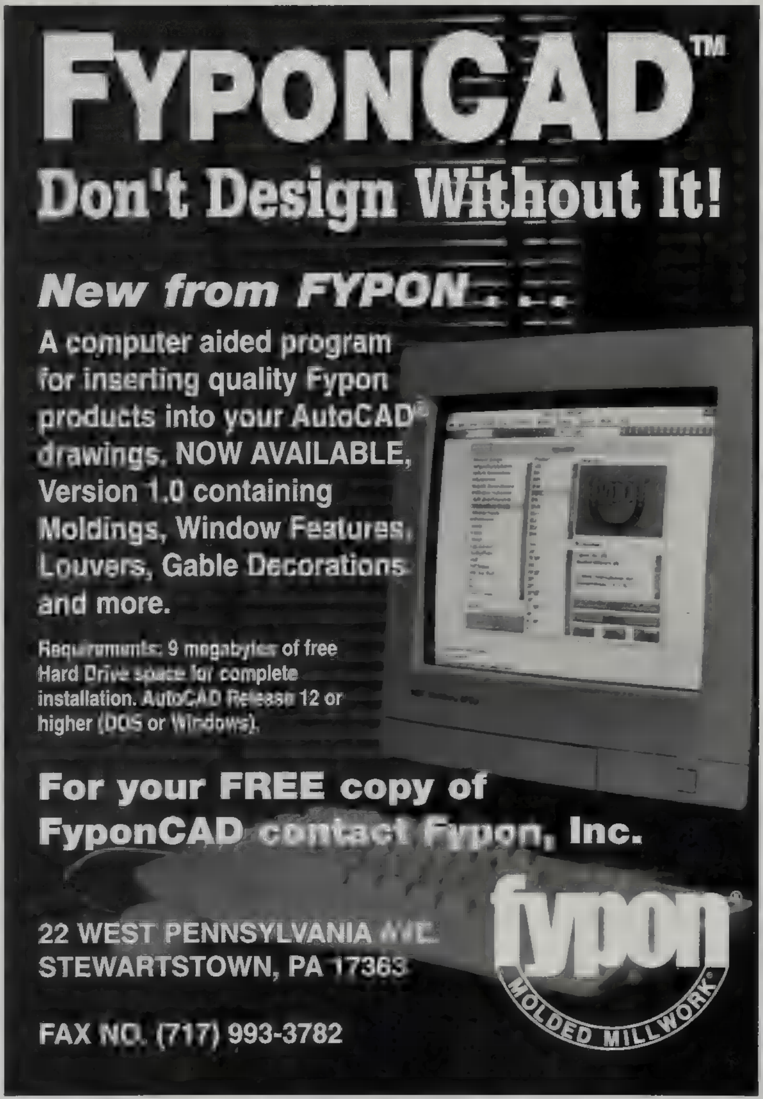

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B

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C

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D

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H

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I

International Conference of Building Officials, **111** ; *42* [G]
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K

Kawneer Co. Inc., **12** ; *10* [G]
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75 to 98
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PAC-Rim. **112**
Petersen Aluminum Corp., **56**; *24* [G]
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61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
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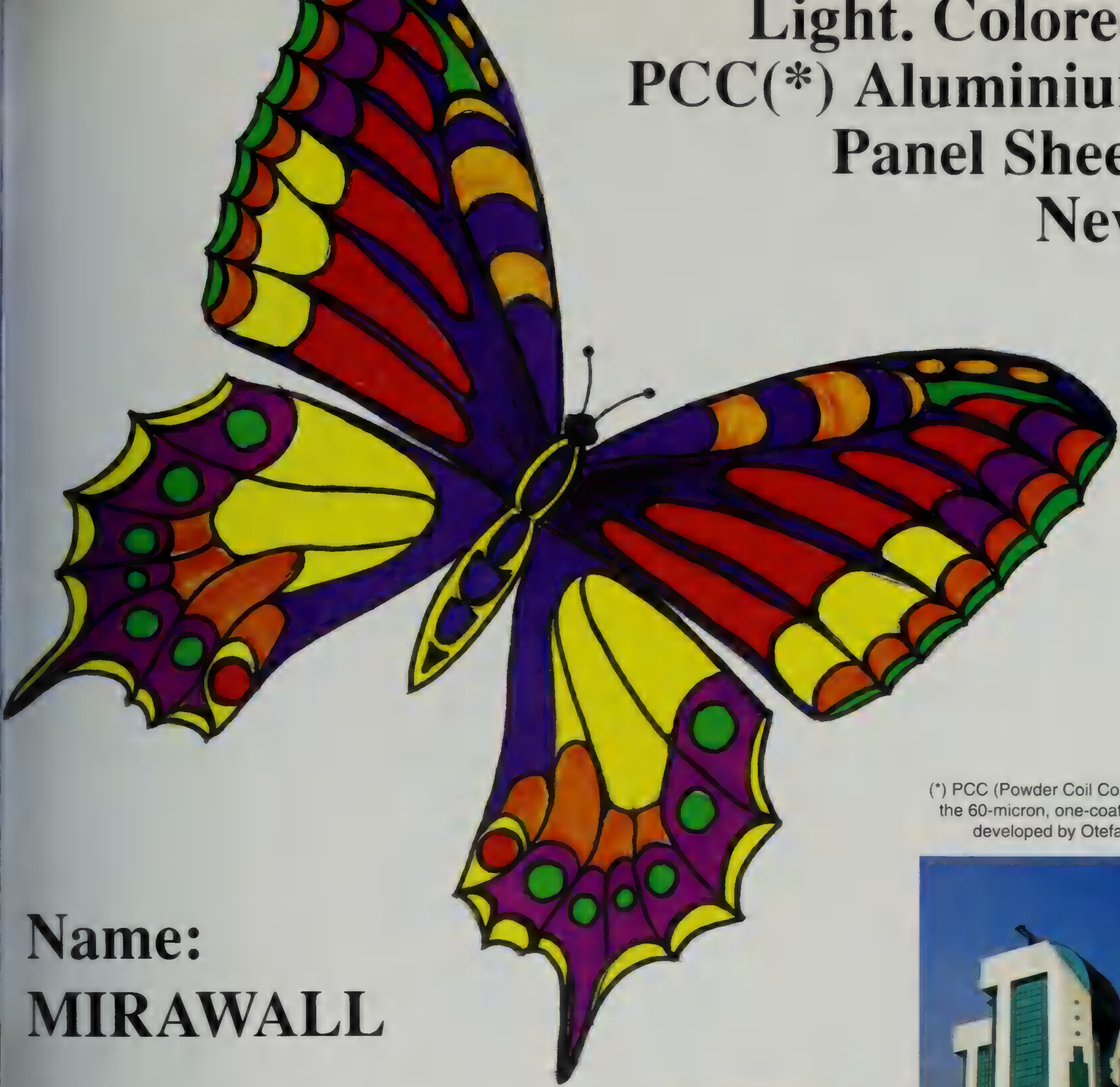

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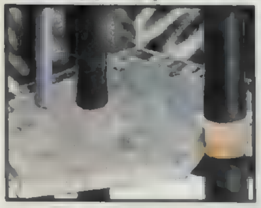
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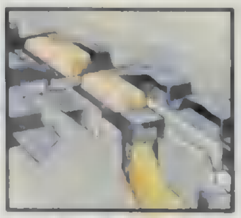
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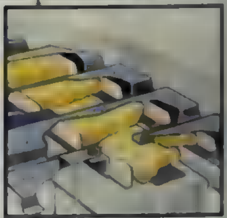
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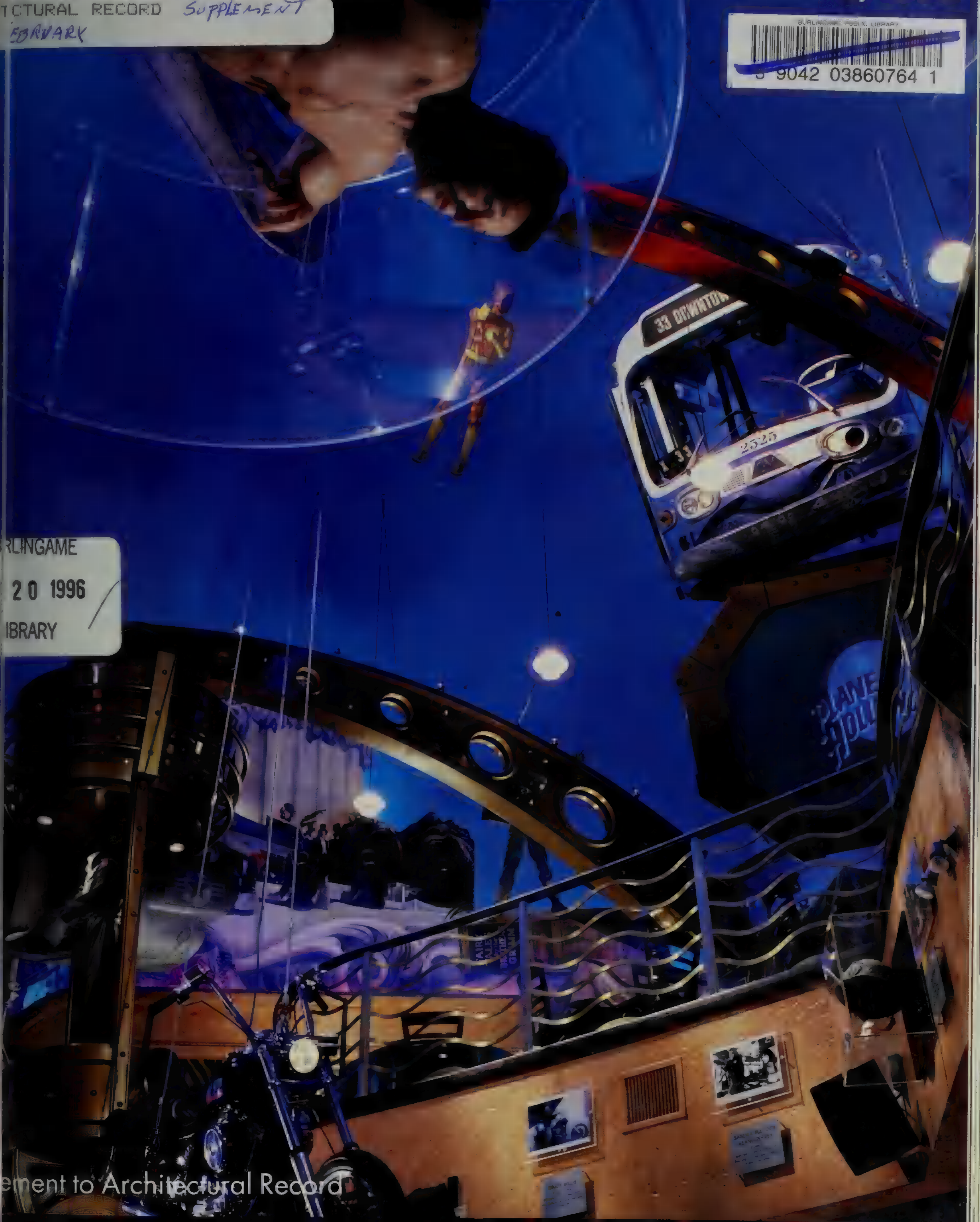

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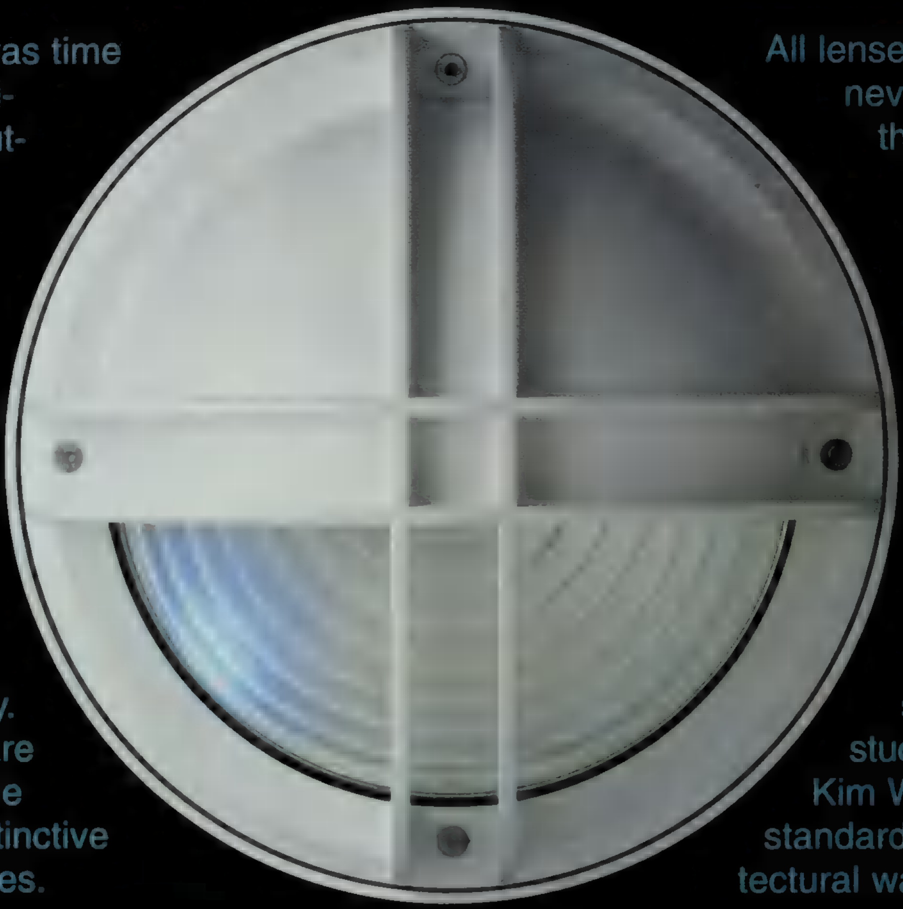

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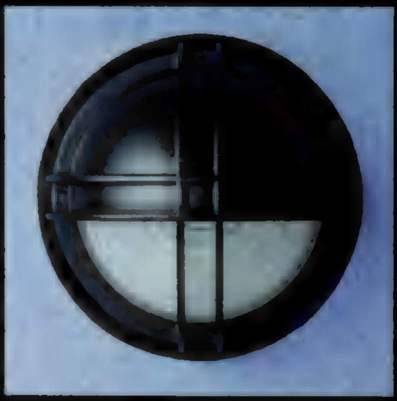
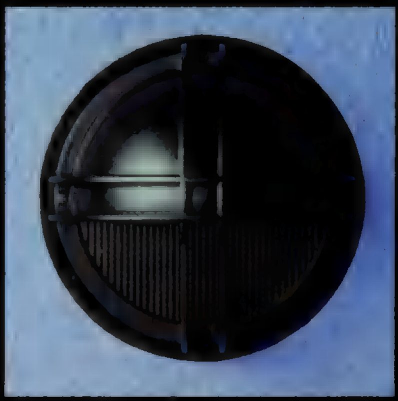


Half Face

Emphasizes downlight while still providing fixture glow.



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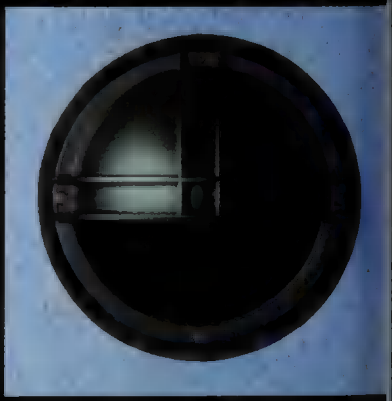

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Padre Serra Parish Church, Archdiocese of Los Angeles, Camarillo, California **14**

Albert C. Martin & Associates, Architect
Architectural Lighting Design, Lighting Designer

Planet Hollywood, Walt Disney World, Orlando, Florida **18**

Rockwell Group, Architect
Focus Lighting in collaboration with Rockwell Group, Lighting Designer

Jordan Hall, New England Conservatory of Music, Boston, Massachusetts **24**

Ann Beha Associates, Architect
Charles Cosler Theatre Design, Lighting Designer

Lighting Design News **5**

San Francisco Lighting Designer Creates Images of Sinking Ships for Pearl Harbor; Chicago Office a Snake Charmer; Poetic Light Offers Commuters at Grand Central Terminal a Reflective Moment; Glowing Gold Granite Boulder Lights Way to a California Brokerage Firm's Headquarters; LightFair's New In-Depth Workshops; Creative Use of Ambient- and Task-Lighting Cuts Need for Ceiling Lighting; Up, Up, and Away in My Beautiful Halogen- and Helium-Filled Balloon

Trends **9**

Utility Deregulation: The Uncertain Future, *by Lindsay Audin*

New Products **10**

Made for both residential and contract settings, new designs for task-and ambient lighting—from Canada, Italy, and the U.S.—present a definite point of view.

Editorial 13
Product Literature 26
Manufacturers' Sources 29
Advertising Index 32
Reader Service Card 33

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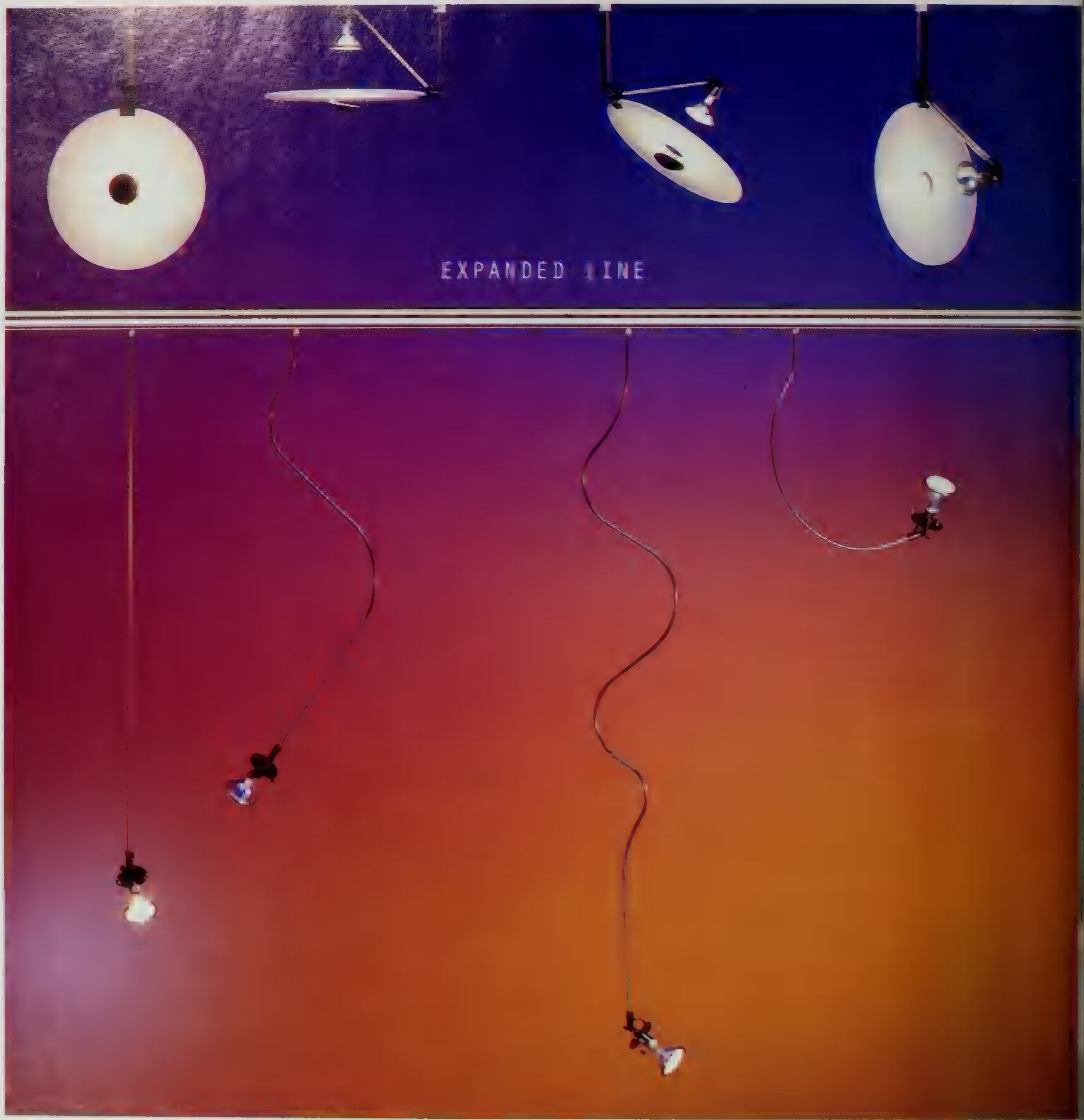

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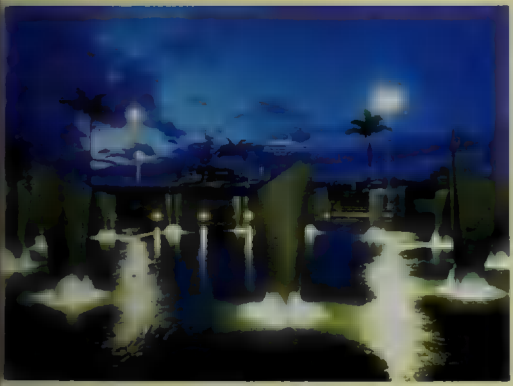
arl Harbor, Hawaii

an Francisco Lighting Designer Creates nages of Sinking Ships for Pearl Harbor

hting designer Robert Stokes has used an
enious combination of stainless steel,
er, and light to create the suggestion of
s sinking amidst turbulent water for a
rl Harbor memorial sculpture installed to
k the 50th anniversary of the end of
ld War II in September 1995.

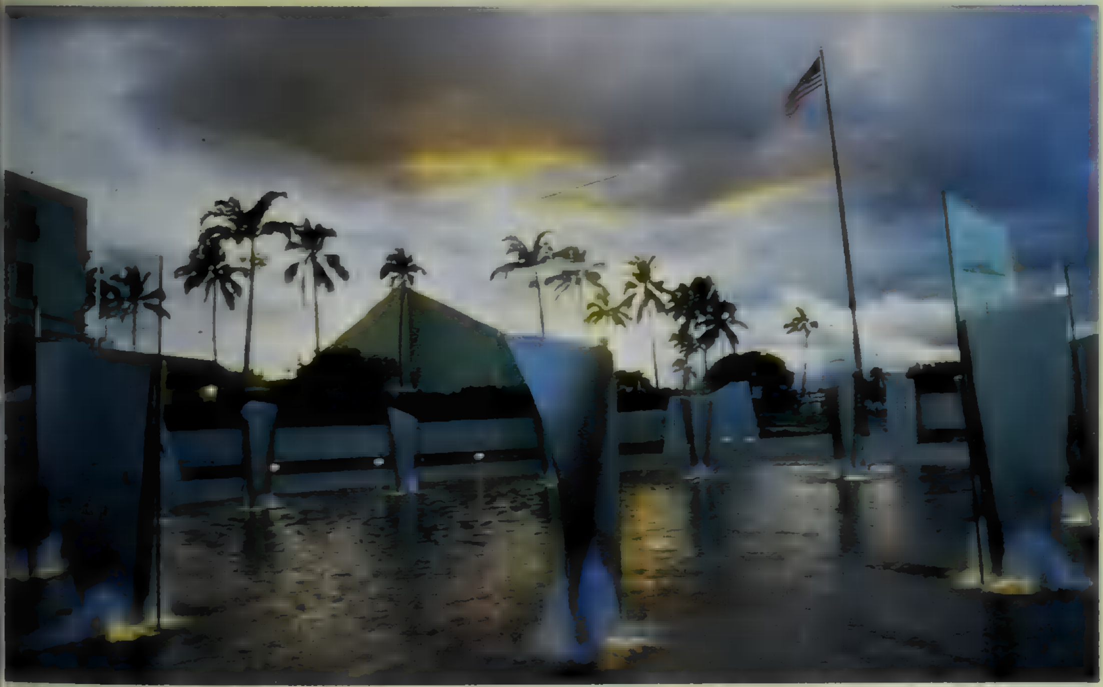
existing shallow, 45-ft-dia. pool in front of
Base Headquarters at Pearl Harbor had
inally contained 12 plastic crystals to rep-
ent the 12 ships that sank at Pearl Harbor.
crystals, however, deteriorated in the
vaiian sunlight, and Stokes was commis-
ied to design an alternative.



His 8.5-ft stainless-steel sculptures are composed of sheet material bent into shapes that resemble the hulls of ships rising out of the water. A glass centerpiece on each sculpture is etched with the image, name, and particulars of a ship that perished on the morning of December 7, 1941. A fountain bubbling under each of the "hulls" adds movement to the sculpture, and creates the image of turbulence surrounding a sinking ship. A 250W quartz submersible fixture mounted under each piece illuminates the central glass panel, and adds a final touch to this dynamic memorial, entitled "Remember Pearl Harbor."

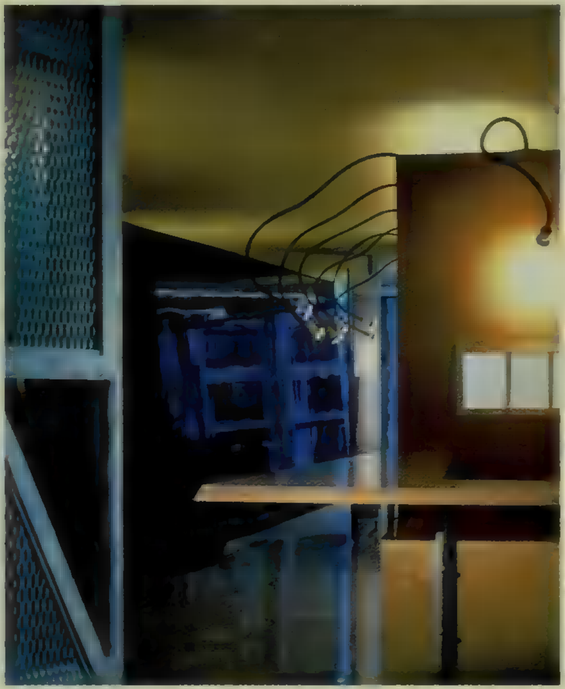
Each of the sculptures was installed in the 18-in. hole left by the previous installation of plastic crystals. The light fixtures, which are located within the holes, are mounted to brackets for easy maintenance, and controlled by a timer system.

This is the first large-scale sculpture commission for Stokes, who was commissioned by Architects, Hawaii, and the Friends of Pearl Harbor. ■



Chicago

Chicago Office a Snake Charmer



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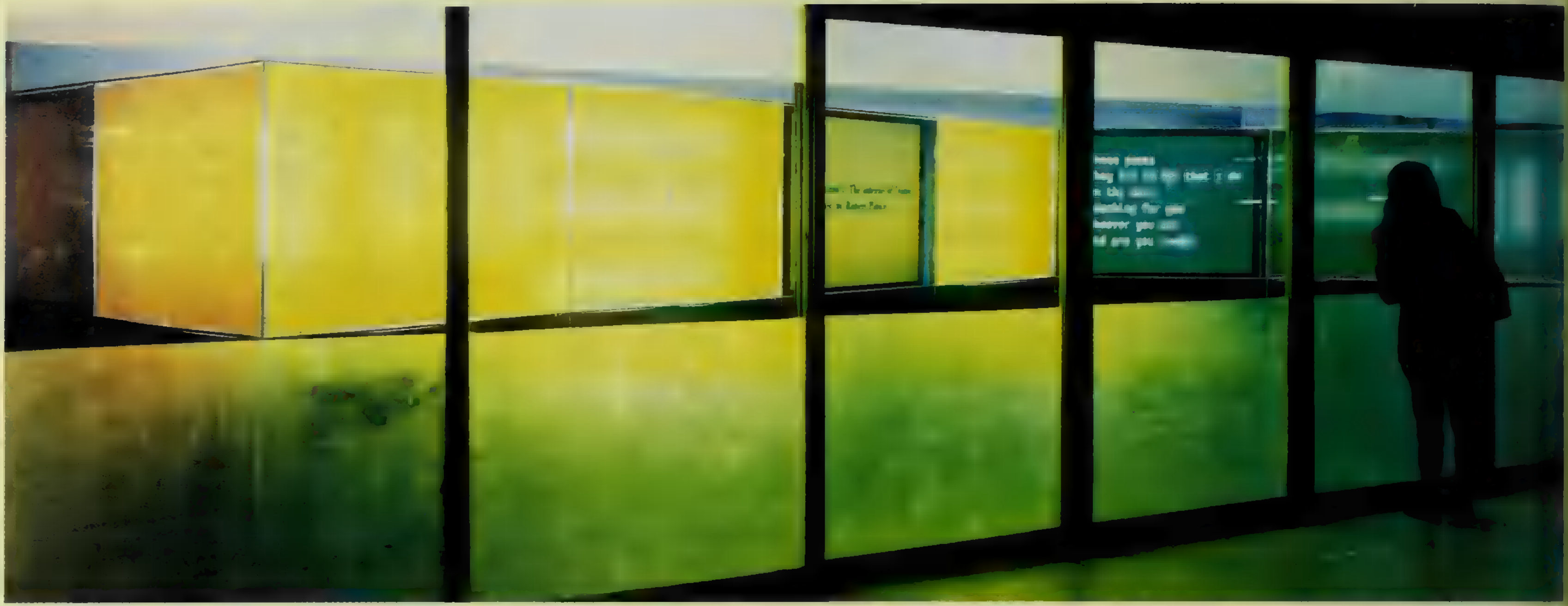
Located in Chicago's landmark Inland Steel Building, the new offices of Ross Barney, Jankowski Architects are distinguished by the ingenious use of "ordinary" materials such as vinyl tile, cork, plywood, and off-the-shelf lighting. The dominant feature of the space, designed by the in-house team, is a diagonal wall that stretches from the lobby to the main conference room. The wall, which emphasizes the relatively narrow floor plate by allowing a visitor to glimpse the entire space, is made up of black plexiglass glued to drywall. The fluorescent-lit studio, which is a column-free space, has been left as open as possible.

Committed to a $30-per-sq-ft budget for build-out and furniture, the architects have used "The Snake Light" by Snake Lights of Vachon Island, Washington, to create drama in the entryway. Cost-effective and flexible, the fixtures use plastic-coated metal conduit to form snake-like coils. The Snake Lights have been attached to the cork partition and work as sort of off-the-wall track lights. ■

New York City

Poetic Light Offers Commuters at Grand Central Terminal a Reflective Moment

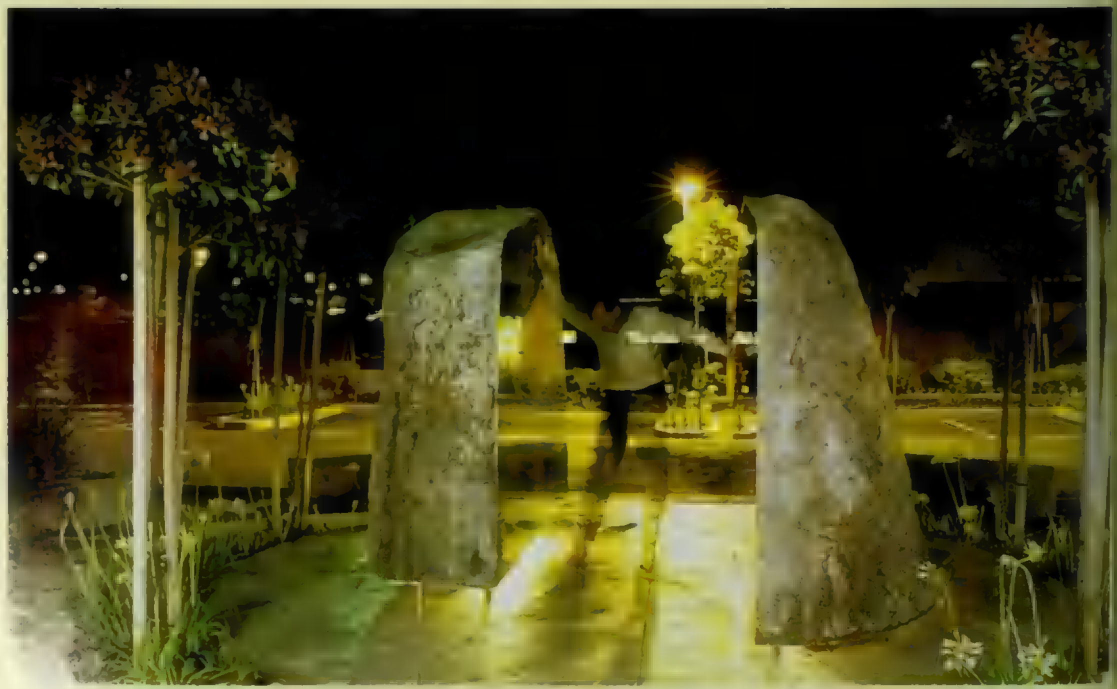

© Scott Frances photo

"Poetic Light," a 45-ft installation at New York's bustling Grand Central Terminal was conceived as a variation on the Transit Authority's much-publicized "Poetry in Motion" series. Composed of verses of poetry moving through an environment of colored planes of light, the installation is meant to be viewed up close, as well as at a distance, according to its designer, New York City architect Louise Braverman. A series of colored-plexiglass panels, each backlit with three 4-ft fluorescent tubes, are organized in a zig-zag formation, and tempt commuters to come closer and examine the piece. The panels are interspersed with 5-ft television monitors displaying continuous loops of moving verse on a colored background similar to the color of the plexiglass plane i which they are located. Zenith Electronics Corporation underwrote the display, which will operate through early 1996. ■

Richmond, California

Glowing Gold Granite Boulder Lights Way to a California Brokerage Firm's Headquarters

Designed by Gary Orr of Orr Design, the gateway to the Security Pacific Real Estate Brokerage headquarters [illegible] made up of a 14-ton, black granite boulder [illegible] into two halves, polished [illegible], held [illegible] [illegible] stainless steel pins, [illegible] [illegible] 250W [illegible] [illegible]



Francisco

ghtFair's New In-epth Workshops

year for the first time , LightFair will · full-day workshops. These will be held day, May 13, the day before LightFair's ial opening. Participants will be eligible EUs from the ASID, IIDA, IES, and . The following workshops are scheduled:

t-yourself photography

ting designer Jim Benya will demon-te the basic principles, light sources, and pment required for taking one's own -quality interior and exterior architec-l photographs and transparencies, ing primarily on the use of the light ing from the actual installation itself.

custom-fixture design process

session will be led by a team consisting vo lighting designers, David Malman and ry French, and two representatives of per Lighting, Randy Borden and Allen ves. The design process involved in creat-ustom-lighting will be discussed, along materials and fabrication techniques, wed by a trip to visit a factory to see s artists, laser cutters, and other artisans tice their crafts.

dscape lighting for interior and erior applications

rnationally-known landscape lighting gner and author Jan Moyer will lead this kshop. Moyer will discuss site evaluation a client's needs, and how the designer grates this information into an acceptable get. Moyer will present conceptual gns that use various day- and night-time ents as examples.

ting basics: a crash course

ructors Ann Reo, Stefan Graf, and Gary fy will present a fast-paced workshop ed toward lighting neophytes, or those are simply interested in an architectural ting refresher course. Reo's portion of class will cover the latest in lamps, lumi-es, and EPACT. Graf will follow with an rmative section on color, and Steffy will d out the program with a session on ting design that is driven by users' needs.

tFair will continue through May 16 e Moscone Center in San Francisco. pre-registration information, phone 865-0327. ■

Beverly Hills

Creative Use of Ambient- and Task-Lighting Cuts Need for Ceiling Lighting

West Coast designer Cosimo Pizzulli believes that much of the fatigue that accompanies the eight-hour office day can be eliminated by the use of ambient- and task-lighting instead of the standard ceiling-mounted type. A couple of years ago, his Santa Monica firm, Pizzulli Associates, designed the West Coast headquarters of Sony Music using this principle. His second convert is another industry giant, BMG Entertainment.

BMG's West Coast headquarters, located in Beverly Hills, Calif., is an 80,000-sq-ft facility where Pizzulli has created a flexible office landscape in which the only overhead lights are in the private offices. The rest of the office space is lit by a combination of wall sconces, spots, light boxes, and bars. Every workstation, for example, is equipped with an 8-ft light box, each containing eight, 4-ft T8 lamps, so that the worker can control the level of light he or she needs. "Not only does this cause less eye-strain for the worker, using ambient lights means saving on the construction costs of overhead lighting," says the enthusiastic Pizzulli. ■

© Assassi Productions photo

France

Up, Up, and Away in My Beautiful Halogen- and Helium-Filled Balloon

Lunix, a helium-filled balloon fitted with 600W halogen lamps, is designed to provide high-intensity lighting for job sites, emergency scenes, shows, and sporting events. Designed by the French manufacturer Airstar, the balloon, which can be tethered by a stainless-steel cable or an extension ladder at a height of 10 to 26 ft, can be hooked up to 110V line power or a portable generator at ground level. Made of laminated fabric, the lightweight balloon, which can be inflated on site, is available in a 5-ft dia. model with a 1,200W power supply, and a 6.5-ft dia. model with a 4,000W power supply. The balloon provides an even, 360-deg. circle of light to an area ranging from 11,000 to 13,000 sq ft. For more information, fax the French Technology Press Office at 312/222-1237. ■

Elliptical Systems

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Litecontrol's Elliptical Systems feature high performance, high quality indirect and direct/indirect products. X^{e}-39, a sleek extruded product, delivers glare-free indirect lighting. For direct/indirect applications, LC-91, in steel, and LC-92, an aluminum extrusion, use a precision designed reflector system to produce widespread indirect illumination and create a low-[illegible] its semi-specular, low iridescence baffles.

[illegible] that works and

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[illegible] to sound environmental policies and practices in design and manufacturing.

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tility Deregulation: he Uncertain Future

As the deregulation of industries like natural gas, telecommunications, and air transportation has affected ancillary industries, the deregulation of electric utilities may shake up lighting.

Lindsay Audin

reparation for an expected wave of egulation and competition, 1995 saw over e dozen mergers or acquisitions of elec- utilities. What's going on? Do these nges hold any implications for the lighting istry?

six decades, power companies have oyed a monopoly status, supplying elec- ity unchallenged in their franchise ter- ries. As a result of alterations to federal some state regulations, that position is inning to change. Both the 1978 Public lities Regulatory Policy Act and the 1992 ergy Policy Act required utilities to loosen reins on access to non-utility power gen- tion and transmission over their lines. eral states have taken the lead in advanc- these options, and are now redesigning ways in which their customers will obtain er in the near future. Major activity has n seen on both coasts, and the utilities e responded by downsizing and consoli- ing in preparation for utility deregulation.

at does the future hold?

one knows. But there are lessons to be ned from other deregulated industries, h as telephone, airlines, and natural gas. lmost all cases, those businesses went ough periods characterized by reduced ployment, price cutting, belt tightening, services, corporate buyouts, technologi- innovations, and a hungry search for new rkets. Some household names, like Ma l and Pan Am, disappeared, while many ones surfaced. If the same trend holds e for the electric utilities, the lighting ustry may find itself both a victim and a efactor of the changes to come.

uipment rebates may disappear

en the utilities began to offer rebates, rofits for energy efficiency became one of fastest-growing aspects of the lighting ustry. Demand for products and services loded, causing lead times for new ballasts l components to stretch out to several nths. But as suddenly as they appeared, ny of the voluntary rebate programs are now vanishing, leaving many end-users and vendors wondering if they will see rebated retrofits in the future. Utilities are cutting back on both the funding and staffing for such programs as part of their reductions in elective expenses; others are shortening the time between a rebate application and its required completion in order to limit outstanding financial obligations.

In an effort to hold onto customers (and perhaps capture new ones), many utilities are contemplating redefinition of their services. "Supplying power" may become "supplying lighting," or horsepower, heat, or whatever. Utilities could begin offering both engineering and design services presently supplied by private firms. Next time you visit a lifelong client, don't be surprised to find a utility rep's business card on the desk.

> *"Lighting designers must be ready to take advantage of change as the world changes."*

The electric-power industry has always been an avid supporter of the lighting industry through promotions, attendance at trade shows, and public education. Such ancillary benefits have already begun to shrink: my informal head count at the last LightFair (and several other shows) found fewer utility people than the previous year. Promotional and educational budgets are also being slashed. Organizations previously dependent on utility support through professional memberships have similarly found it necessary to expand their horizons to maintain cash flow.

While the lighting industry has never heavily depended on the utilities for product-development funding, many grants to organizations such as the Lighting Research Center, the Electric Power Research Institute, and some federal labs have come from utilities and their research arms. As utilities gird for competition, some lighting researchers have confessed that they are feeling uneasy about the future of funding for their projects.

Off-peak rebates; billing confusion

In a reversal of demand-side management rebates, several utilities have begun to offer rebates to increase lighting loads at off-peak times to improve utility-load factor, and thus expand revenues. Consolidated Edison of New York, for example, now offers a rebate for increased night and security lighting, as long as energy-efficient fixtures are used. It would not be surprising to see other incentives to expand power consumption from existing power plants, while avoiding the increases in peak demand that could require construction of expensive new power plants.

Perhaps the most perplexing change that will confront lighting designers will be a variety of new electric rates. Just as many business people are still trying to figure out the best long-distance telephone plan to choose, deregulation will likely spawn many new choices for how power will be purchased. Real-time pricing (RTP), for example, is becoming popular for large facilities that avoid paying a higher price (whenever the utility runs its most costly generation) by controlling their loads. In some cases, RTP could make some lighting-control options (such as daylight dimming) more cost-effective, while making others (such as occupancy sensors) less viable. Where power prices drop, customer interest in upgrading lighting to cut operating costs may disappear as payback periods stretch out.

Opportunities: learn from the past

Just as many lighting practitioners became aware of the retrofit opportunity long after the business had been stolen by newcomers, the same may happen as the power industry changes. It may be advantageous to keep abreast of activities at public-utility commission meetings, where such action is being fostered. Renew old ties with utility people, and suggest that your firm could be a handy contractor should the utility "sub out" its lighting-design services. A chat with the organization's contacts in government could provide a perspective on what sort of businesses the utilities will be allowed to enter as they are deregulated. Lighting professionals must be ready to take advantage of change as the world changes—or once again be left behind. ■

dsay Audin is energy conservation nager at Columbia University and an rgy consultant to E-source.

Decorative Lighting

Rick Mariani photo

350

352

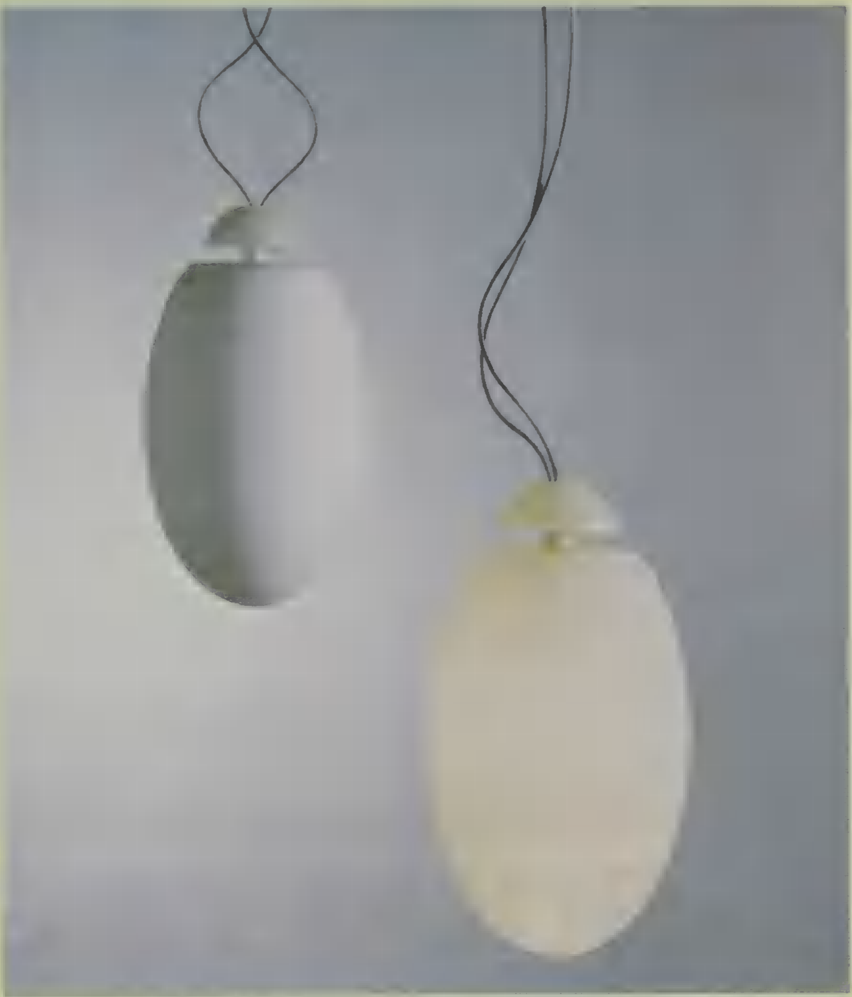
350. Turned wood/sleek metal. One of a series of 1930s-inspired lighting by designer Barbara Barry, Piedmont lamps have stems of finely fluted or smooth natural wood set onto weighted bases of sand-cast metal. Shades are made of self-banded white silk described as rugged enough for contract and hospitality spaces as well as residential use. Shown here as a table lamp with bases of polished nickel, the Piedmont also comes in sconce and standing-lamp versions. The stems may be specified in maple, mahogany, limed oak, or open-pore satin-black finishes; metal accents can be ordered in the polished nickel shown, as well as bright brass or a matte gold. 415/431-4300. Boyd Lighting Co., San Francisco.

351. Architectural downlighting. Optos recessed downlights, designed for Zumtobel by Sottsass Associati for incandescent, compact-fluorescent, and metal-halide sources, now offer light-diffusing shades in colored glass, a decorative option that should be particularly effective in hospitality, restaurant, and children's healthcare settings. Tw of the three designs are shown, left: Mizar, red and gold glass, and Tauri, in blue. A metal ring holds the accessory lens to the housing. Optos downlights can also be ordered with Saturn discs of clear or sandblasted glass. 201/340-8900. Zumtobel Staff Lighting, Inc., Garfield, N.J.

352. Aluminum pendant. Signature pendants and ceiling fixtures provide soft residential lighting in a dramatic, contemporary-styled luminaire. The chandelier (abov gives uplighting from four 75W halogen lam and downlighting from a single 55W PAR 16 sources are concealed by clear- or seeded-glass rings held in a spun-aluminum frame. Dimensions, dimming, and lamping details f Signature and other residential lighting are included in a CD-ROM-format catalog. 800/217-7722. Lightolier, Inc., Fall River, Mass.

353. Spaceship. The distinctive Titania light, designed by Alberto Meda and Paolo

de for both residential and contract settings, new
signs for task and ambient lighting–from Canada,
ly, and the U.S.–present a definite point of view.

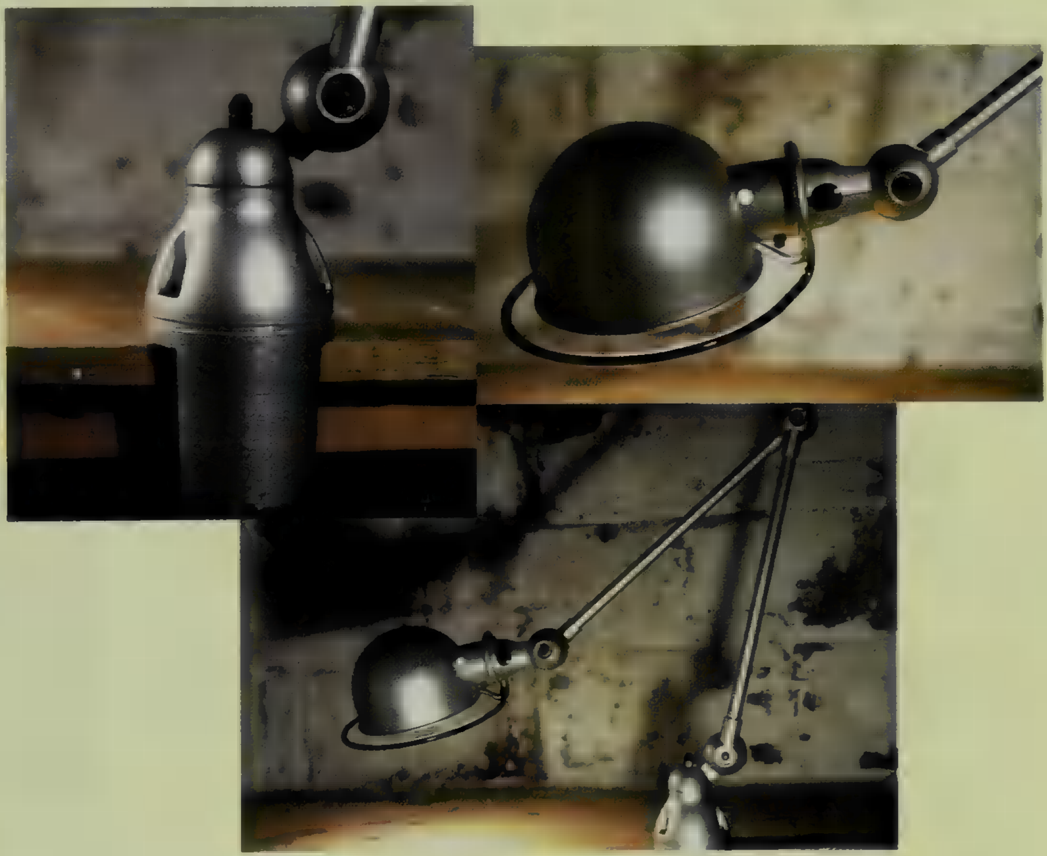


354

atto in 1989, is now available as a desk
p. The tiltable aluminum louver/housing
nes with five interchangeable color filters.
mping: 150- or 250W halogen. 212/387-7861.
ceplan USA, Inc., New York City.

4. Ovoid. Achille Castiglioni's new
dant for Flos was inspired by the
sterious egg shape that floats above the
ads of the Virgin and Child in Piero della
ancesca's Brera Altarpiece, painted in 1475.
day's version takes an incandescent or 23W
L lamp, however. 516/549-2745. Flos USA,
., Huntington Station, N.Y.

5. Industrial. A 1951 design by Jean-
uis Dumecq now being produced in
nada, the Jielde lamp has an endearing,
rkmanlike esthetic. Made of machined
el and aluminum in a natural-metal finish,
lampholder is fully adjustable using a
at-proof aiming hoop; all wiring is con-
aled within the articulating arms' seamless
ing. Each price for multiple orders: $149.
6/504-4919. Jielde Luminaires, Toronto. ■



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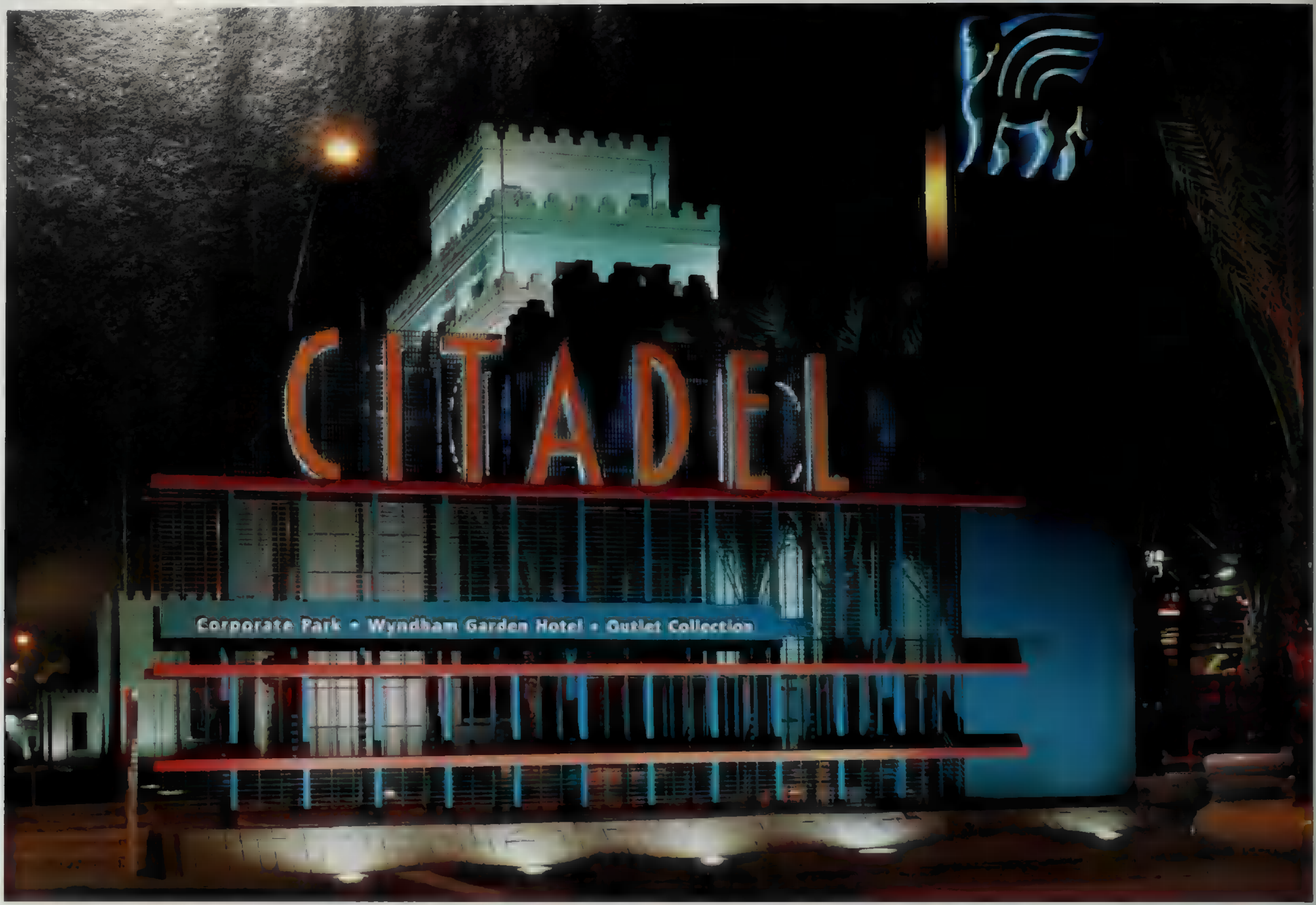
Matthew Ross photos

owner: [illegible] *architects:* Nadel Partnership in conjunction with Sussman Prejza *lighting design:* Grenald Associates



9000 NIGHTWASH

Wide, even light finds new shapes in the night time landscape

Hydrel's 9000 Series ingrade up lights illuminate the walls at the new Citadel retail and office complex in Los Angeles. These new hi-tech ingrade fixtures were chosen especially for their high performance and low installation cost.

Chip Israel of Grenald talks about the project:

"The lighting on the front had to unify the whole project, as well as provide a soft inviting feeling."

" The solution included 175 watt metal halide 9000 Series from Hydrel, set back six feet from 30 to 40 foot walls as a wash."

"We ended up further back and with a softer approach... we wanted the building to have a friendly feel, not to eerie."

"The lighting was also aimed up and outward from the entrance along the walls to accentuate architectural detail and shadows and to prevent the lighting from becoming to flat."

"These lights have the benefits of being concealed in-grade fixtures which reduce both aesthetic objections and installation costs, as well as new high performance E-17 lamps."

"We were fortunate to be able to work very well with some manufacturers such as Hydrel and Western Lighting Industries...They were able to supply us with some great and efficient lighting at a price that enabled the job to get done in the way we wanted."

Hydrel's 9000 Series in grade fixtures provide wide uniform performance for wall wash and sign lighting applications.

[illegible] BRADLEY AVENUE • SYLMAR • CALIFORNIA 91342 • TEL 818/362-9465

Circle 305 on inquiry card

Blinded by the Light? Me?

I have always told the curious that RECORD LIGHTING does not cover entertainment lighting, "entertainment" conjuring up the likes of "Siegfried and Roy" shows in Las Vegas. This sort of lighting doesn't interest me very much, and anyway, there is already a magazine that covers this sort of thing.

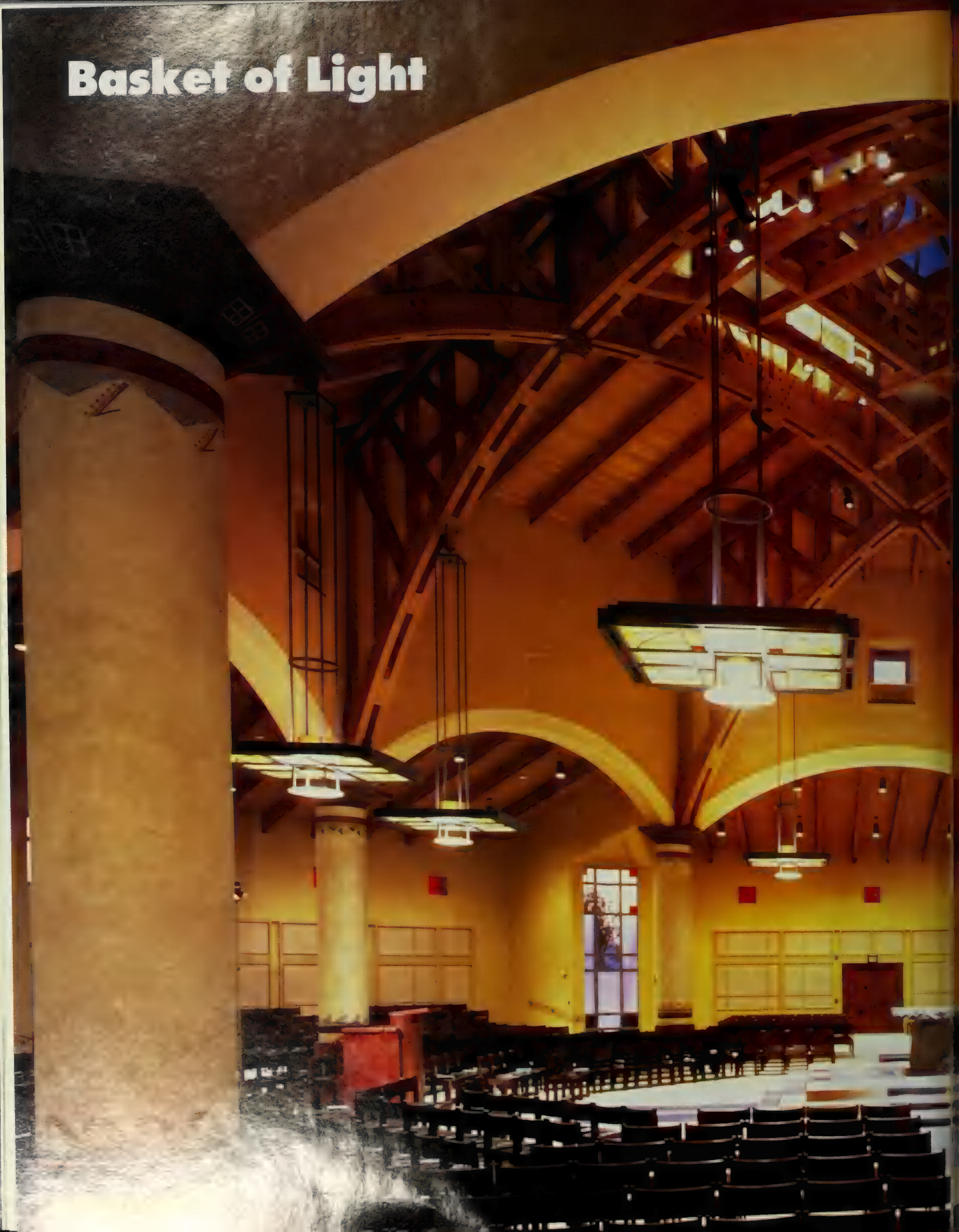
I had to check myself on that, however. While it seems sacrilegious even to suggest that lighting a house of worship is anything like lighting a "Siegfried and Roy" show, the lighting of both is used to focus attention. At Padre Serra Parish Church (pages 14-17), the lighting is used to draw the attention of the congregation to the actions of the minister, a choir, a processional, or whatever. In its own way, it is lighting for drama.

This leads us to Jordan Hall, at the New England Conservatory of Music (pages 24-25). Early concert halls certainly owed plenty to church lighting. But by the time halls like Jordan were being built, stage lighting had come a long way from what was early church lighting. This seems logical, with different programs music halls and theaters required, and the proscenium arches, front-lighting, ellipsoidals, dimmers, followspots, and so on that they brought along with them. But not to stray too far from the point: once again lighting for an entertainment spot found its way into RECORD LIGHTING.

Planet Hollywood (pages 18-23), however, returns to the spectacular. It is theater, never mind that on this stage the mannequins of famous actors are really props and the real actors are the diners. The guests are steeped in the entertainment, from the special effects achieved by the lighting, to the gigantic one-of-a-kind props and memorabilia that make the place feel like it's spinning apart. What? There's no entertainment lighting in this magazine? Maybe I was just blinded by the light. *Charles Linn*

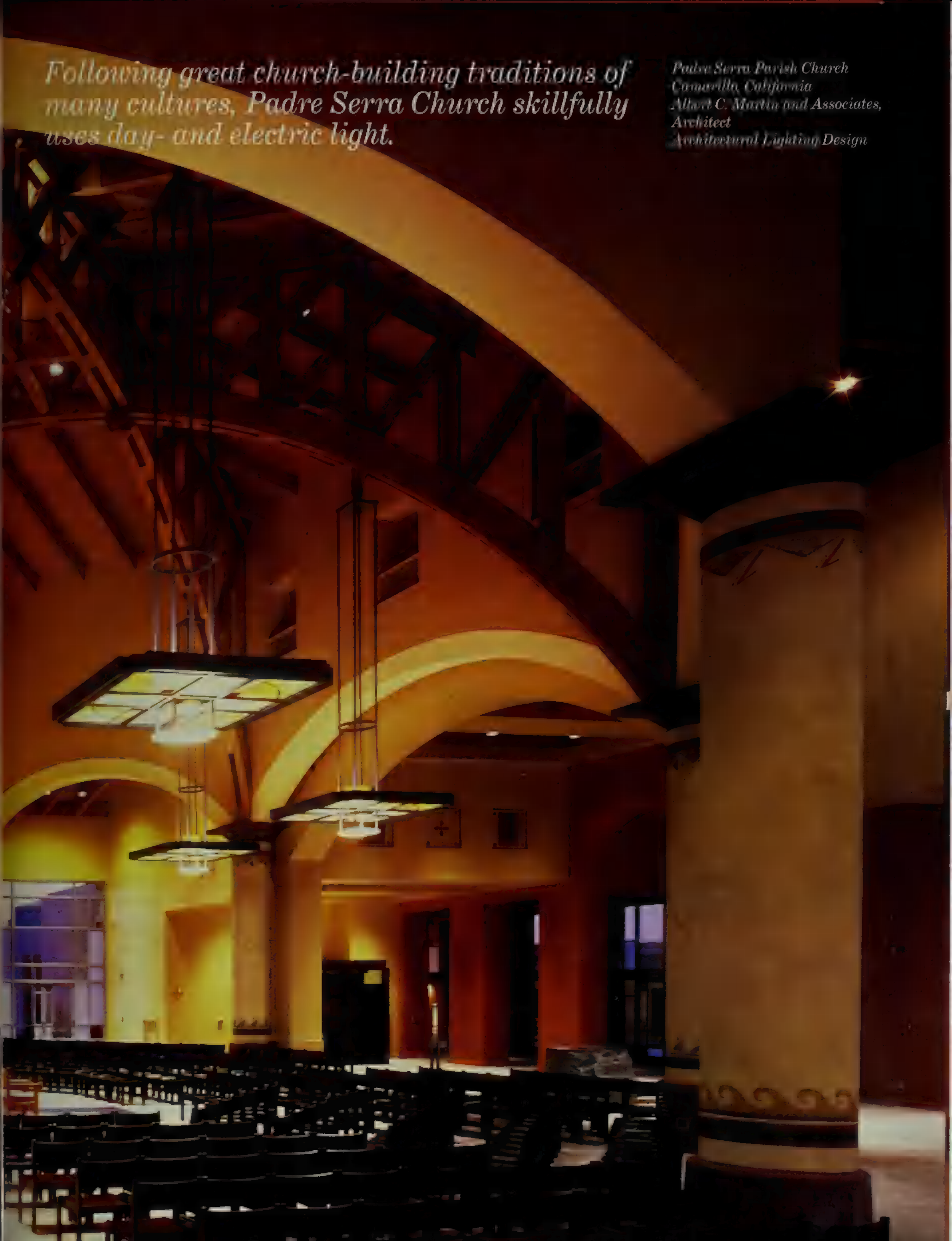
anufacturers' Sources
sted on page 52

Basket of Light



Following great church-building traditions of many cultures, Padre Serra Church skillfully uses day- and electric light.

Padre Serra Parish Church
Camarillo, California
Albert C. Martin and Associates, Architect
Architectural Lighting Design



Padre Serra Catholic Church's ancient Jewish, Spanish, Mission, and Native American roots are apparent in its use of heavy timber, stucco, and stone materials. According to architect David Martin, "The whole genesis of the symmetrically generated plan was inspired by ancient Jewish temples that were octagonal in plan, having arch-supported roofs, the arches themselves buttressed by a ring of small alcoves." Yet on the the inside, while Padre Serra uses many of these same classical materials, it is very much a modern, Vatican II Catholic church.

The Vatican II guidelines stress the participation of the worshippers by using their native language for masses rather than Latin, as well as reorganizing the spatial relationship between the congregation and presider. At Padre Serra, the altar has been located in the center of the tall, arch-supported sanctuary rather than at the front, and is on-axis with the baptismal font and the narthex. At typical weekly services when the church is half-full, the 500 worshippers are seated on all sides of the altar, as close as 40 feet to the presider. On holy days, twice as many worshippers might attend, and the overflow is seated in the alcoves (see overleaf), the area with a lower ceiling beyond the columns that support the arches. "With the alcoves usually unoccupied," continues Martin, "the lights are off most of the time. Yet during a regular mass, with the brighter lighting, even though everyone is seated within the area of the large dome, the space feels very intimate."

The church relies heavily on daylighting, and the architect and lighting designers have used a combination of historically proven details found both around the Mediterranean and in the Southwestern U.S. These devices are used to temper the desert's overpowering light—strictly limiting aperture sizes (photo below), splaying the walls around them, and using olive trees to shade tall glazed niches.

From the entry of the church, the narthex or "gathering place," its main axis leads through a skylit, double row of columns (opposite top), past the baptismal font (opposite bottom), positioned to remind the worshippers of the cleansing image of baptism, and on to the focal point of the sanctuary, the altar. A starry, downlit nighttime sky (opposite top) painted over the font is the first object a newly baptiz person sees overhead after immersion.

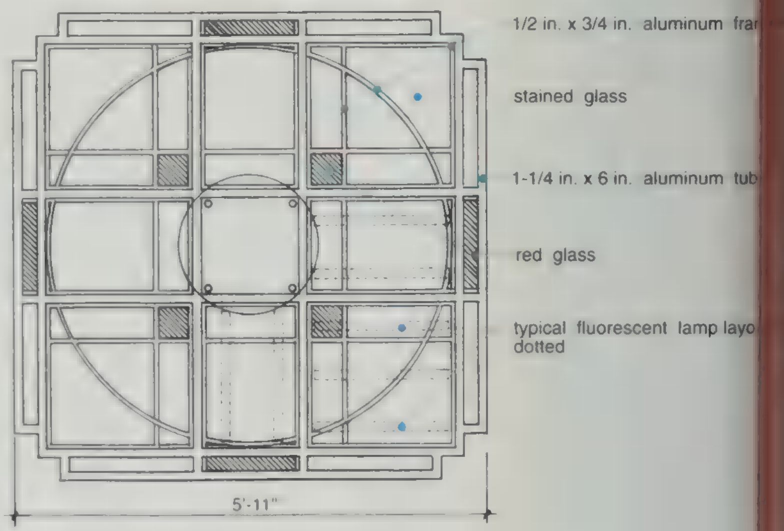
The altar is made of seven tons of California granite and centered i the sanctuary, daylit by the 16-foot-by-16-foot skylight which has been framed by the intersecting timber arches (overleaf). The daylight can be given an added boost by several theatrical spots concealed in the ceiling structure. These are activated by a simple preset controller, which can accommodate other typical scenes for special liturgical events.

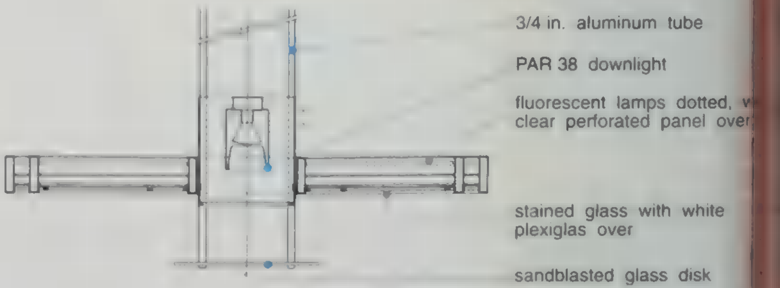
The custom-made chandeliers in the space (see drawings below) ser several purposes. While decorative, they also limit one's sense of height where the ceiling is actually quite high. The chandeliers also conceal a grid of fluorescent lamps, which provide uplight. As is goo practice for decorative fixtures that use uplighting, the chandeliers have a incorporated a small area of bright light, in this case, a disc o glass suspended below the fixture, to fool the eye into thinking this the apparent brightness in the space. *Charles Linn*

Credits

Padre Serra Parish Church
Archdiocese of Los Angeles
Camarillo, California
Architect: *Albert C. Martin & Associates—David C. Martin, desig partner; Edward Nolakiewicz, project designer; Thomas Emme, project manager*
Liturgical Consultant: *Dan Young*
Lighting Designer: *Architectural Lighting Design—Tim Thomas*
Electrical Engineer: *Clay Calhoun*
General Contractor: *Birtcher Construction Limited*

The bright desert sun's penetration into Padre Serra Church is controlled by limiting the size of its apertures, which are at the floor and clerestory levels in the alcoves (photo above) and still higher and larger in the upper portion of the domed, timber trusses that support the roof (opposite bottom right). Chandelier details are at right.


1/2 in. x 3/4 in. aluminum fra
stained glass
1-1/4 in. x 6 in. aluminum tub
red glass
typical fluorescent lamp layo dotted
5'-11"


3/4 in. aluminum tube
PAR 38 downlight
fluorescent lamps dotted, w clear perforated panel over
stained glass with white plexiglas over
sandblasted glass disk

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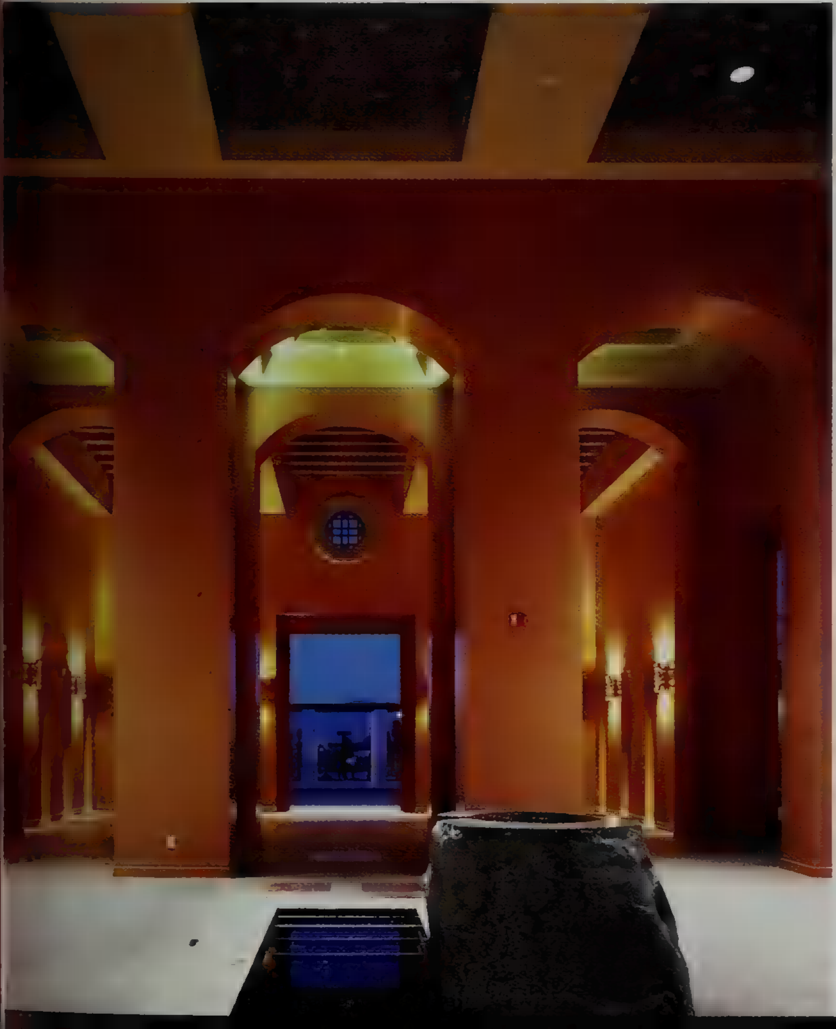
Aker/Zvonkovic photos



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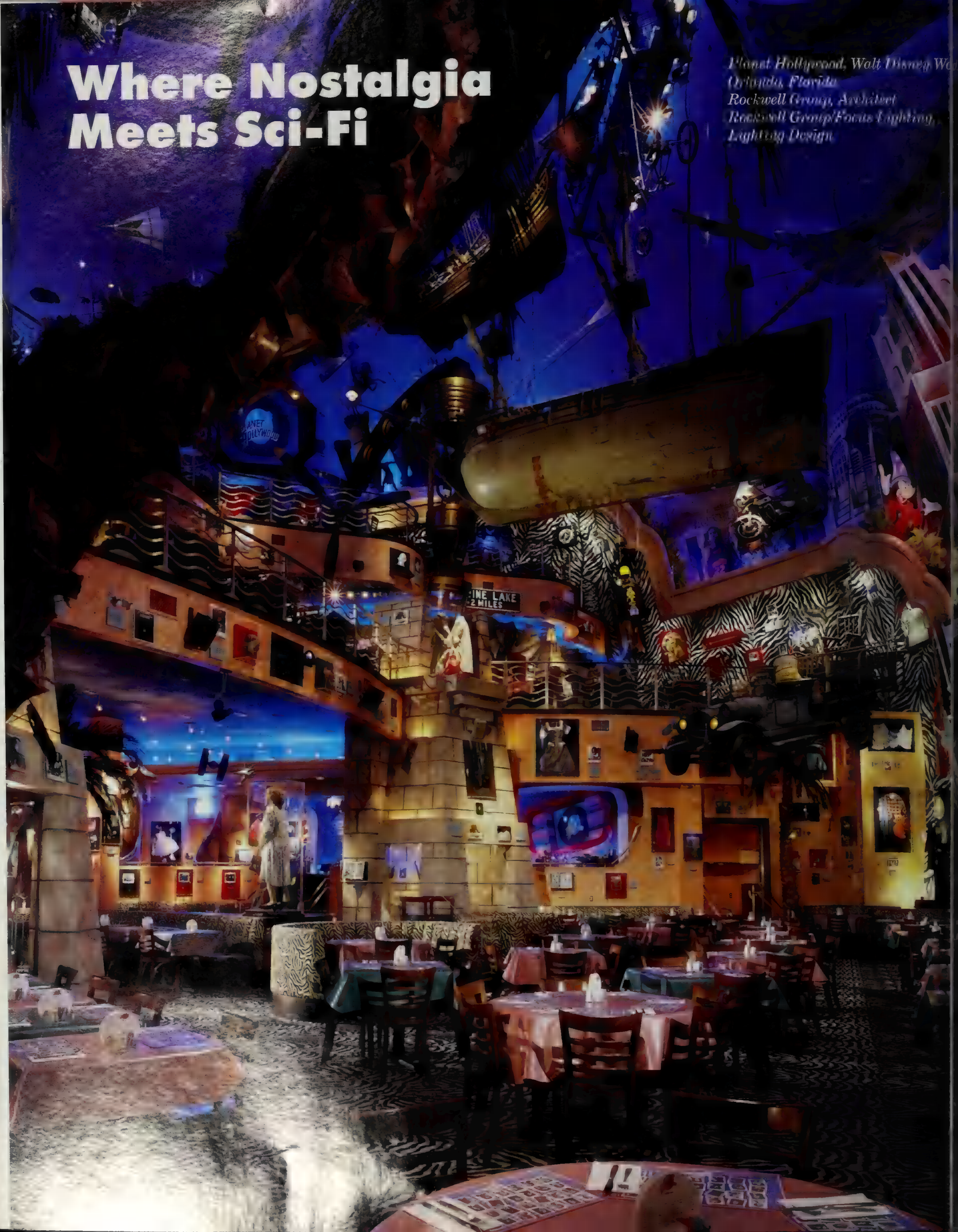
Rockwell Group/Focus Lighting,
Lighting Design



celebrity-restaurant designer David Rockwell, who has scrawled ; flamboyant signature on 30 Planet Hollywoods from Shanghai to .n Francisco and elsewhere across the globe, Orlando's earth-like me was still a first. Located in a lagoon next to Treasure Island in alt Disney World, the pulsating, spherical structure has the distinc- n of being the world's first free-standing Planet Hollywood.

ore like a theater or a planetarium than a restaurant, the vast 120- ot-diameter sphere is supported by 12 steel trusses that arch across exterior. The lighting, a collaborative effort between Focus Light- g of New York, and Rockwell, imparts the dome with a large part of e magic and drama that are trademarks of Rockwell's restaurants.

ie dome is clad in a blue-sprayed foam-like material which works as anvas for the drama of the lighting. Forty-eight AR500s—a pro- ammable, color-changing outdoor flood—have been strategically aced in the lagoon as well as in specially designed metal arms tached to the steel trusses. These create a changing panorama of ht and color that fades from blue to magenta to blue again. The ge letters of the Planet Hollywood sign emblazoned across the me are outlined in red neon and filled in with 200 "egg strobes," iose constant flashing adds more movement to the glittering exteri-

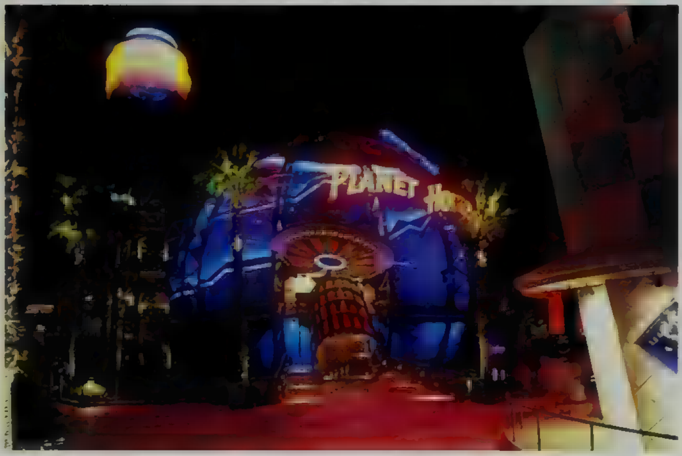
escalator tube, lined with miniature spaceship-like fixtures, opens to a dramatic entrance defined by a glowing disk that represents a ing saucer. Lit by six 200W blue vapor fixtures that fan out on poles form a halo around the disk, ringed by 50 PAR38 quartz lamps and cented by a circle of "egg strobes" in the center, the flying saucer, th its bright lights and flashing bulbs, bestows the aura of stardom those who step within.

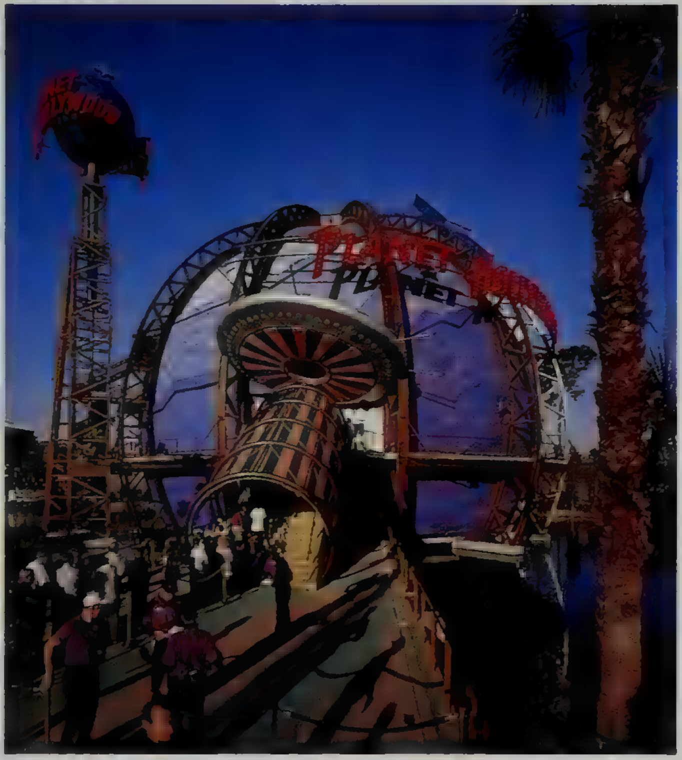
side, the vast column-free space is designed like a theater. Two sus- nded terraces to one side of the space create three levels of dining, ile a 60-foot diorama and hanging movie memorabilia dominate the posite side.

he inside is a study in lighting the memorabilia," says Paul egory, president of Focus Lighting. The memorabilia, the signature the Planet Hollywood chain, range vastly in size and texture. The lando restaurant, for example, has the Harrier jet from "True es," the bus from "Speed," the gun from the Clint Eastwood classic he Good, the Bad and the Ugly," and the black wool hat Barbra reisand wore in "Yentl." Each of these has been carefully lit with a mbination of MR16 and PAR36 lamps, as well as 500W theatrical ming projectors. The memorabilia are further emphasized by ing juxtaposed against the bright blue "sky" of the dome, created the use of 400W metal halide with blue filters, as well as blue eved 40W fluorescent fixtures.

's like lighting a Broadway show, only more complex, because ople are actually going to use the space," says Rockwell, whose ief stint as a lighting designer on the Great White Way left him with understanding and affinity for the medium. *Nayana Currimbhoy*

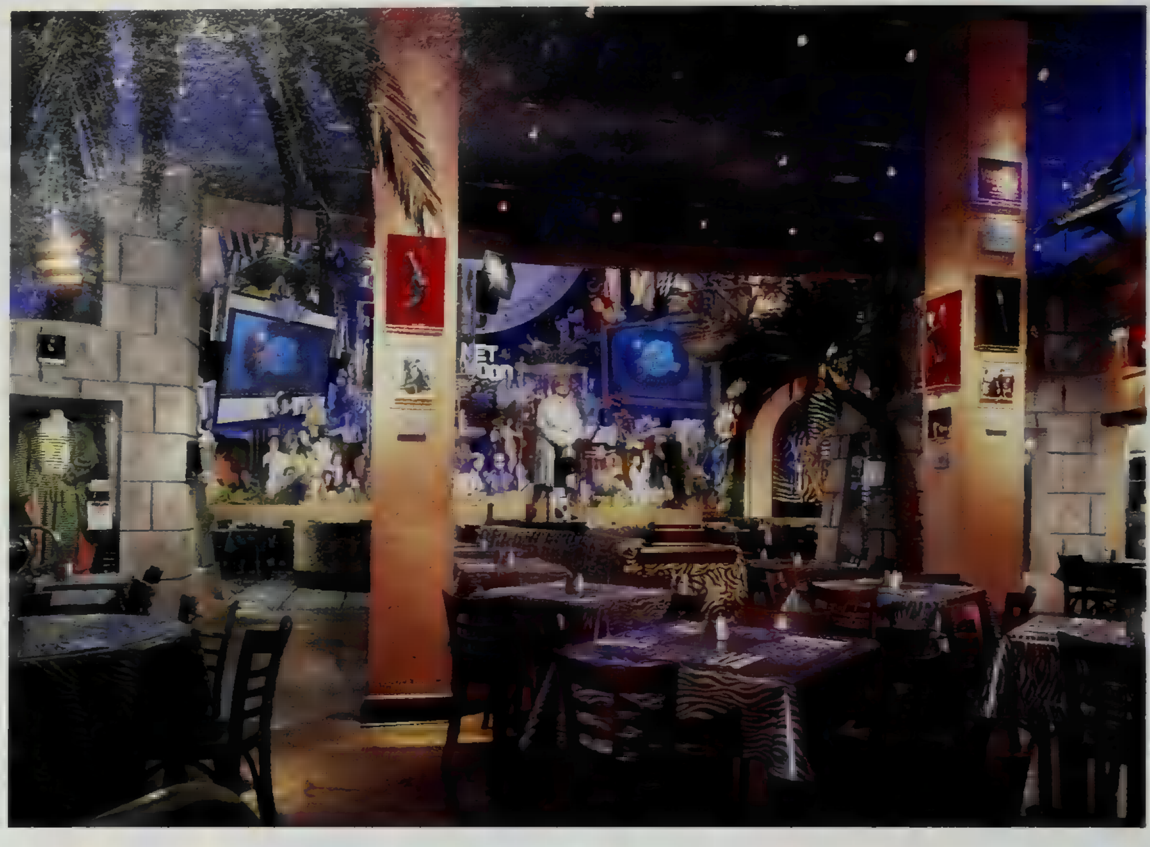
© Aerial Innovations/Penny Rogo photos this page





Forty-eight AR500s have been strategically placed around the perimeter of the 110-foot-high dome. Twenty-four of these are focused on the steel trusses, while the rest, placed in the lagoon surrounding the building, project a shifting panorama of colors onto the foam-like skin of the dome.

PLANET HOLLYWOOD
PLANET HOLLYWOOD



Eleven tons of hanging memor bilia, a 60-foot diorama-screen displaying film excerpts, and a host of Hollywood figures and costumes (left and overleaf) compete for attention in the 30,000-square-foot space. By sa urating the domed ceiling with blue from a combination of fluo rescent and metal halide locate in the upper catwalk, then framing the hanging items against the blue "sky" with spot PAR lamps, and MR16s (opposite), the designers have create a restaurant where dining becomes a theatrical experienc

Credits
Planet Hollywood
Walt Disney World
Orlando, Florida
Client: *Robert Earl, President and CEO, Planet Hollywood International, Inc.*
Architect: *Rockwell Group — David Rockwell, Carmen Aguilar, Tim Nissen, George Bennett, Miohsel Gonzaga, Eri Blohm, Mike Notaro, project team*
Lighting Designer: *Focus Lighting in collaboration with Rockwell Group*
Electrical Engineer: *Rodin Engineering, Inc.*
General Contractor: *Welbro Contractors, Inc.*

53

A Classical Hall, Played Lightly

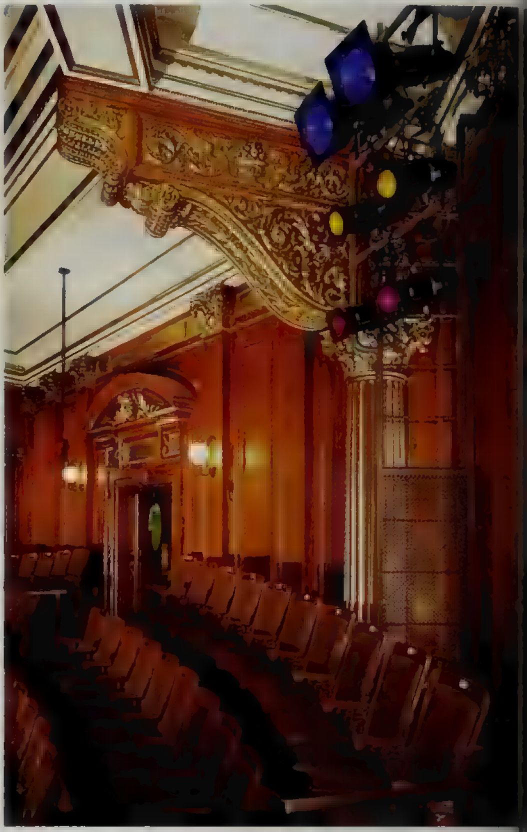
The first time lighting and theatrical consultant Charles Cosler saw the New England Conservatory of Music's Jordan Hall in 1985, the house was so dark he could hardly make out the unlit laylights at the top of the space, the huge organ, and the massive, gold-colored aluminum-leaved proscenium arch and massive cartouche over center stage. At the back of the house, the ornate doors and frames leading out of the auditorium were also shrouded in darkness, but the possibilities did not escape Cosler's trained eye: he had no difficulty imagining what Jordan Hall *could* be.

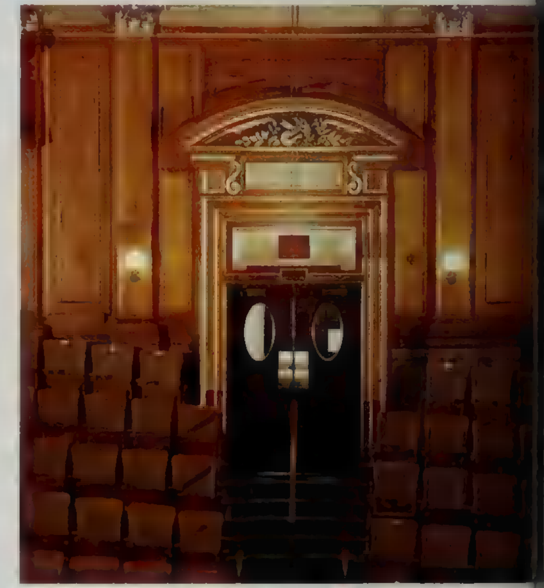
Five years later, when restoration architect Ann Beha came looking for a lighting and theater designer, Cosler leapt at the opportunity. But while sympathetic to the romance of restoring such a building, his ideas are tempered by years of experience working in old theaters that were far less than adequately equipped. What he set out to do at Jordan Hall was to integrate modern lamp and control technologies into the architecture in a way that would allow the hall lighting to be operated, adjusted and maintained easily, but also to allow its grandeur to flourish as it never had before.

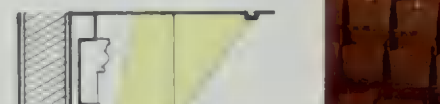
Relighting the hall was aided greatly by a general repainting and restoration of the aluminum leaf. Starting at the top of the house, Beha and Cosler then chose a swirled, white and amber glass for the laylights at the top of the auditorium's coffered ceiling. During daylight hours these are illuminated by a newly-reopened skylight, and at night each pane is lit by a 45W PAR38 very-wide flood lamp in a suspended can. The house- and stagelights are both quartz 500W high-bay downlights with special gold reflectors, says Cosler, "to warm them up." A catwalk behind the canted ceiling allows followspot operators access to their equipment, which shines through glazed openings in the angled portion of the ceiling. In adjacent ceiling panels gimbel-ring PAR56s provide a general wash on the proscenium arch, and similar low-voltage PAR 46s reveal the once-lost cartouche. Track lighting concealed in a proscenium cove highlights the organ case. Beneath the balcony, Cosler used downlights that have a pair of 18W compact fluorescent lamps for use during rehearsals, or a single 45W PAR lamp for use during concerts.

Both the stage lighting and the house lighting can be controlled from a single lighting board, unlike the systems in many concert halls which are controlled from different locations. This board is normally located off-stage, but it can be located in the house if required. Cosler also saw to it that house and stage lights lights could be operated using presets from several locations, so that anyone using the hall for rehearsals can operate the lighting without the full control board.
Charles Linn

Credits
Jordan Hall
New England Conservatory of Music
Boston, Massachusetts
Architect: *Ann Beha As*[illegible]
Lighting Designer: *Charles Cosler* [illegible] *Design*
[illegible] **Engineer:** *R.G.* [illegible]
[illegible] **Contractor:** *Walsh* [illegible]

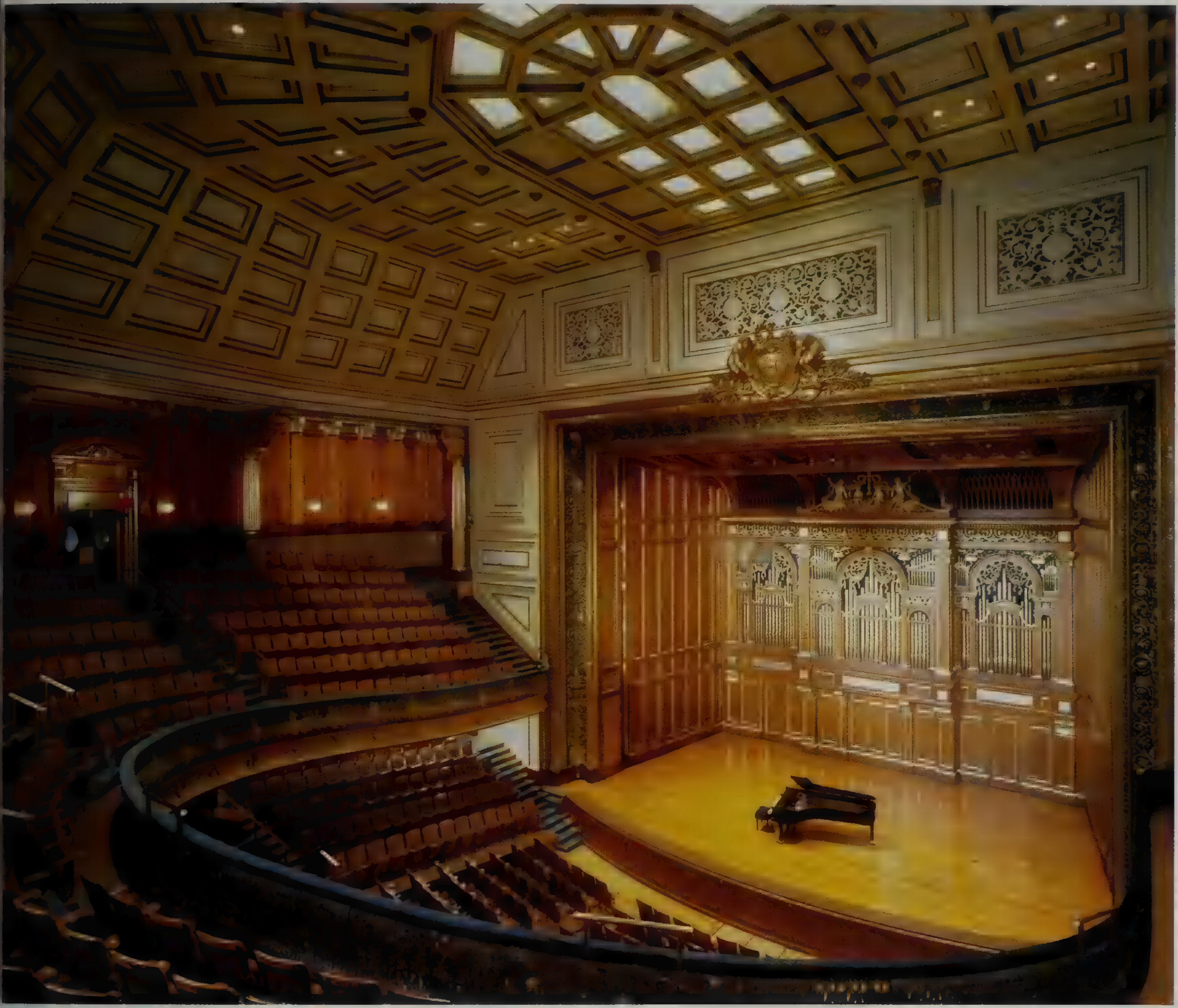




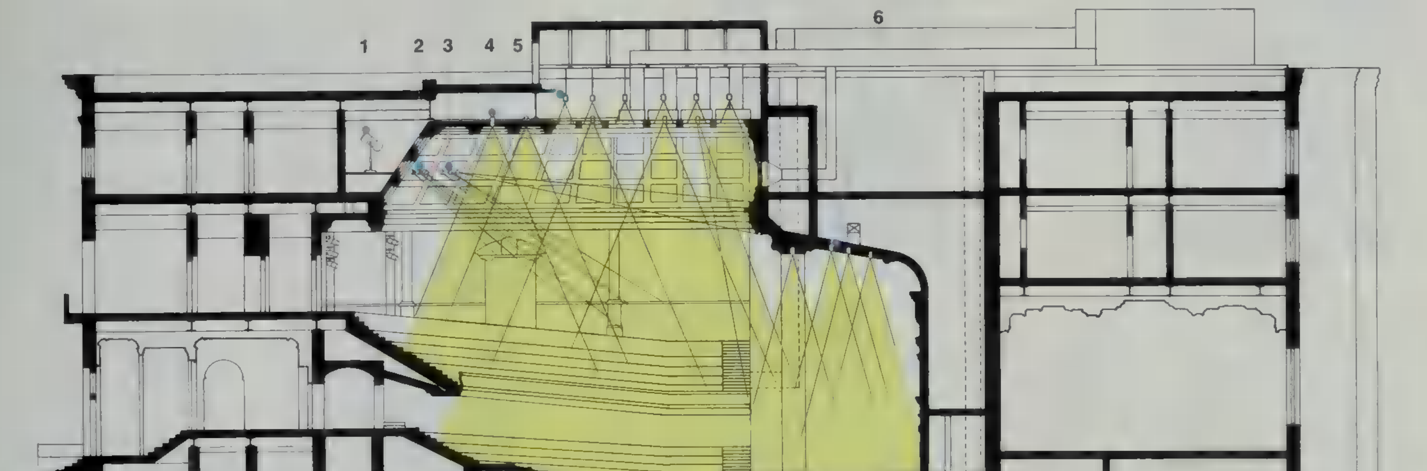

150W quartz uplight with asymmetrical reflector
150W quartz asymmetrical reflector uplight — mounted to back of exit signs; l e d - type with custom faceplate
5 F
1 5

Stage lighting (top) at the rea the house is secured to perma-nently-installed steel ladders, saving wear and tear on the adjacent wall finishes. The ladders are complete with buil in electrical supply circuited t the dimming system. Quartz fi tures with asymmetrical reflectors (left and above) illu nate the five grand exits from t hall. One is placed on a pedi-ment over the door; the other concealed on the back of an LE exit sign suspended from the ceiling. Cosler developed a special 1903-era typeface for th sign. The sconces are reprodu tions faithful to the period.

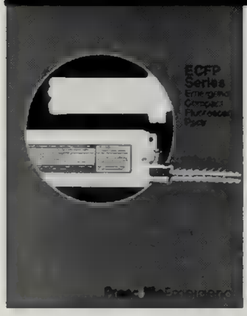
ick Wheeler photo



1. *Follow-spot in attic space*
2. *Adjustable PAR56s wash proscenium*
3. *Adjustable PAR46s accent cartouche*
4. *500W T4 downlights light house*
5. *45W PAR38 pendants backlight laylights*
6. *500W T4 downlights light stage*



Product Literature/Lighting



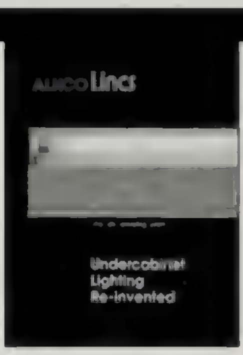
360. CFL power packs
A four-page brochure introduces ECFP battery packs, which add emergency-operation capability to compact-fluorescent fixtures, including those using twin-, quad-, and triple-tube lamps. Packs may be specified factory installed in fixtures, or may be added on site. Batteries are replaceable. Fax requests: 509/921-7539. Prescolite, San Leandro, Calif.

361. Exterior floodlighting
Individual luminaire data sheets give light distribution, lamping, mounting, and full dimensions for each model of Hydrel's new 7200 Series twin-reflector uplights. A dual configuration, housings have two optical systems that can be independently aimed. 818/362-9465. Hydrel, Sylmar, Calif.

362. Spec-grade downlighting
A Performance Downlighting catalog gives lighting designers the tools to meet the illumination and other criteria needed by engineered lighting applications. New products include Specmaster general-use downlights, and architectural fixtures with maximum beam-control features. Omega Lighting, Div. Thomas Industries, Los Angeles.

363. Large-diameter fiber optics
A technical brochure details the illumination potential of new OptiFlex acrylic light pipe, with a comparatively large core said to provide optical clarity, excellent light transmission, and in-use durability. Made in a range of diameters, its long-term flexibility and 500-ft length makes OptiFlex field installable. 800/2-LIGHT-IT Rohm and Haas Co., Philadelphia.

364. Compliant sconces
Phaces low-profile luminaires offer a wide range of shape, lens material, and trim options, including scoops, quarterspheres, triangles, arcs, and wedges. A dual-chamber reflector distributes indirect lighting well suited to corridors and narrow commercial spaces; spacings of 24 ft can provide 25 fc of even illumination. 414/242-1420. SPI Lighting, Mequon, Wis.



365. Undercabinet lighting
A fold-out catalog highlights the Lincs linear-lighting assembly, a plug-together system that can combine compact-fluorescent and halogen low-voltage lighting in a single length. Flexible connectors let components turn corners or "jump" partitions. 708/451-0700. Alkco, Franklin Park, Ill. ■

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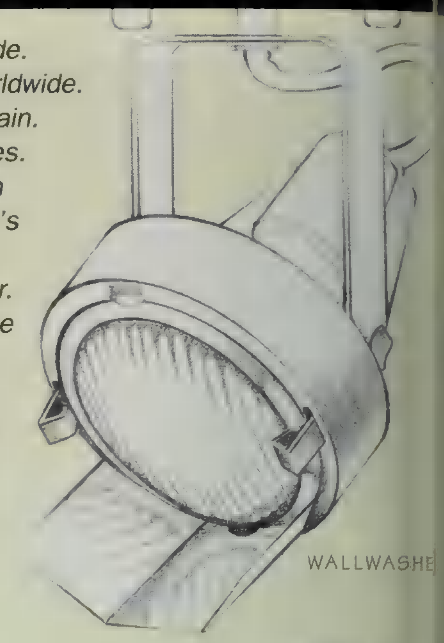

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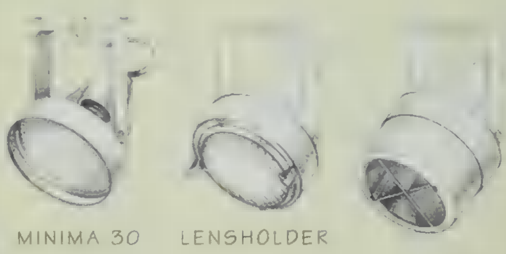

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anufacturers Sources

· your convenience in locating lighting ures and other products shown in this nth's feature articles, RECORD has asked architects and lighting designers to ntify their sources.

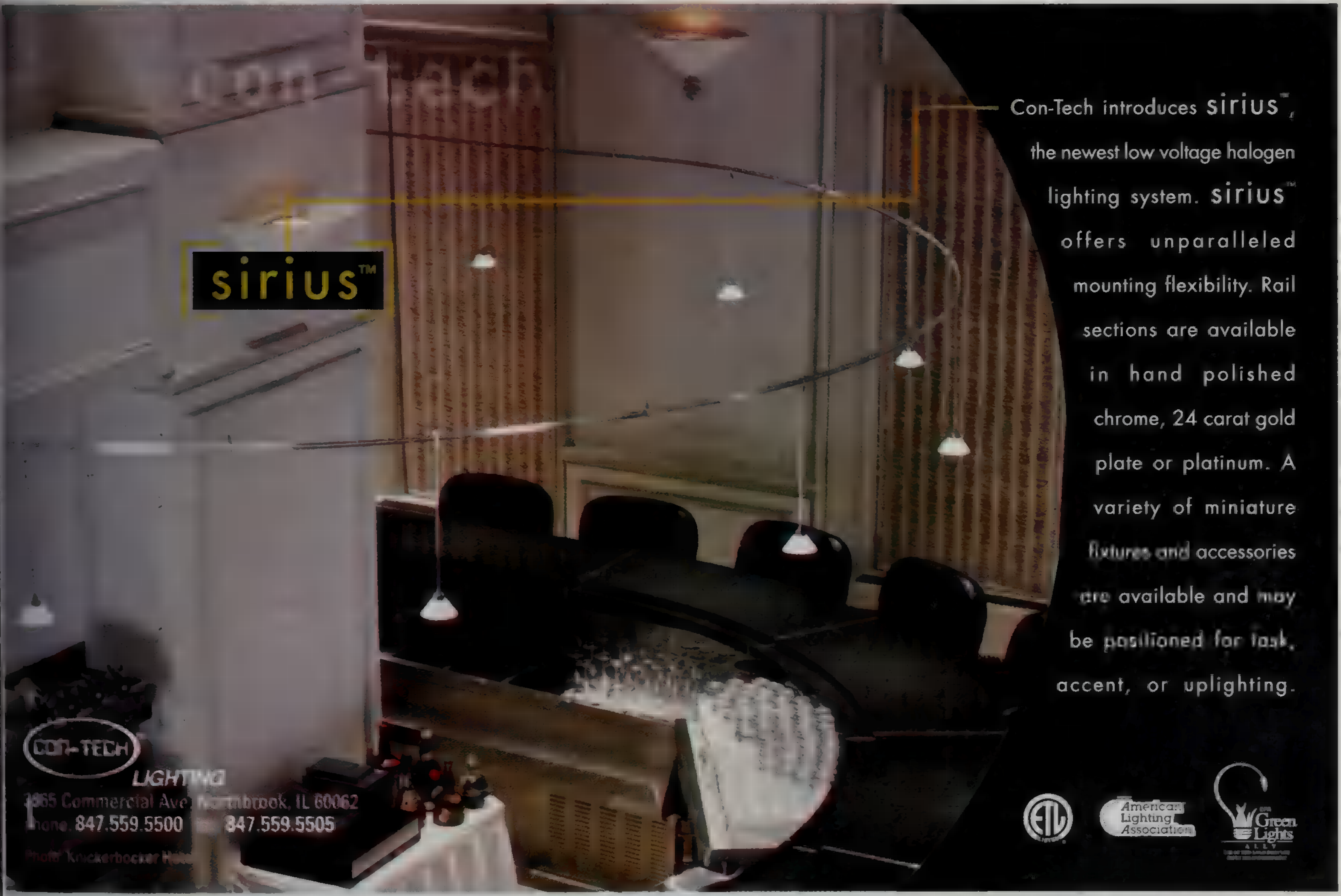
ges 14-17
lre Serra Parish Church
marillo, Calif.
ıert C. Martin & Associates, Architect
:hitectural Lighting Design, Lighting
signer
:essed quartz-halogen downlights: Kurt ·sen Co. Recessed PAR downlights: ison Price Lighting, Inc. Cylindrical fixes and fluorescent troffers: Lithonia ;hting. Theatrical lights and dimming tem: Colortran. Nave chandelier and nces: custom by Albert C. Martin & Asso:es; fabricated by Environmental Lighting Architecture (ELA). Exits: Isolite. Area ıting: LSI Industries, Inc. Landscape ıting: Hydrel Corp. Exterior sconces: ·oyo Craftsmen.

ges 18-23
net Hollywood at Walt Disney World
ando, Fla.
:kwell Group, Architect
·us Lighting, Lighting Designer
terior—Special-effects floodlights: Quality :hting. Color-changing floods: ·ilite/Irideon. Egg strobe: Ness/Optec. tures at entry and stairway: Litelab; ılsen Lighting (Orbiter). Dichroic-red accent fixtures: Stonco Lighting.
Interior fixtures—Recessed accents and MR16 track fixtures: Halo. Pendants: Poulsen Lighting. Low-voltage track: Lucifer Lighting. Theatrical spots at catwalk: Altman. Wall accents with blue filters: Quality Lighting. Fluorescent strips: Legion Lighting Co., Inc. Low-voltage cable-hung fixtures: Tech Lighting. Xenon festoon lighting: Alexandra.

Pages 24-25
Jordan Hall, New England Conservatory of Music, Boston
Charles Cosler Theatre Design, Lighting Designer
Ann Beha Associates, Inc., Architect
High-bay downlights and door uplights: Rambusch Architectural Lighting. Lay-light pendants: Lithonia Lighting. Lighting controls: Electronic Theatre Controls. Refurbished fixtures: Newstamp Electric. Sconces: custom by Charles Cosler Theatre Design, fabricated by Roy Electric Co. Spot lights: Manning Lighting. Cove-mounted track lighting, other spotlights: Lightolier, Inc. Exits: Atlite (custom). Exterior luminaires: Spring City Electrical Mfg. Co. ■

New Products *continued*

356. Energy-saving high bay fixtures. Beta Bi-Level industrial and warehouse luminaires offer two-level operation without additional switch gear, transmitter/receivers, or phase couplers. Each fixture is hard wired, with an integral motion sensor that brings illumination up to full power almost instantly when activity is detected. Standard operational mode is a low, energy-saving level sufficient for safety and security. 414/886-2800. Beta Lighting, Sturtevant, Wis. ■



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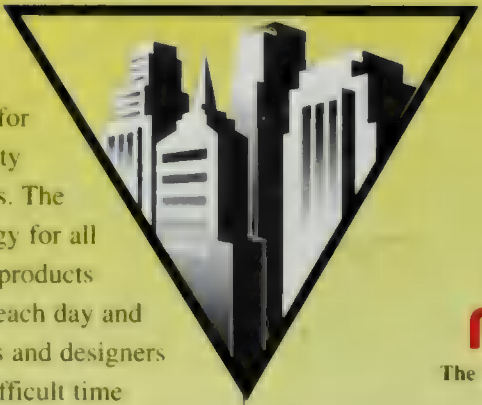

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In Grade Up Lights

This 36 page catalog covers the new, innovative 9000 Series Ingrade Lighting fixtures. See how modular design makes a difference in performance, installation, maintenance, and durability. Available in a variety of configurations, this series accepts lamps to 175W HID, 250W incandescent. Architectural and landscape illustrations include recommendations for the most common applications. Hydrel, Sylmar, California.

Hydrel

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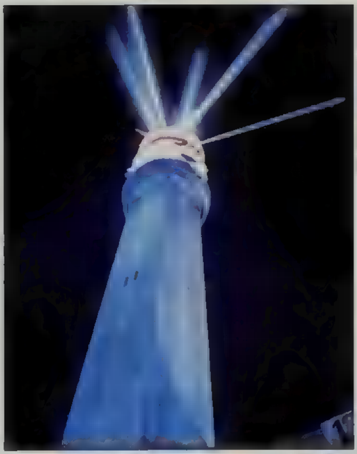
The AR500™ Exterior Luminaire by IRIDEON



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Wendelighting

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Bold Face - page number
Italics - Reader Service number

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(E) Engineering & Retrofit
(I) Industrial Construction & Renovation
(H) Homebuilding & Remodeling
(C) Contract Interiors
(L) Light Source

A

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H

Hydrel, **12** , *305*
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I

i. e. architectural, **28** ; *309*
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Columnist James R. Benya writes about the recent activities of the National Council on Qualification for Lighting Professionals, and why lighting designers should consider taking the NCQLP's certifying exam once it becomes available.

And, columnist Lindsay Audin goes on-line to investigate Internet sites set up to aid lighting designers.

Record Lighting's May Issue—don't miss it!

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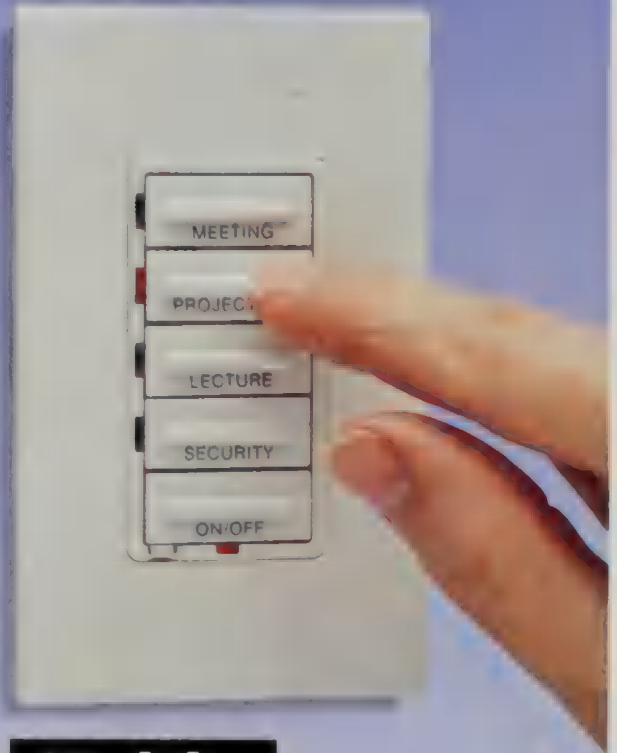

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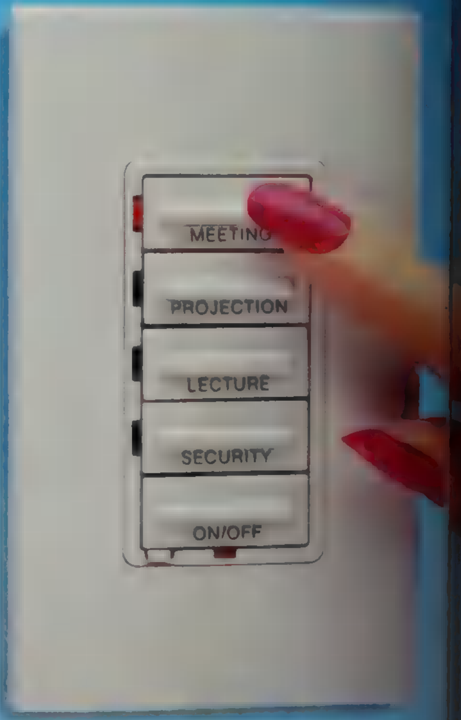

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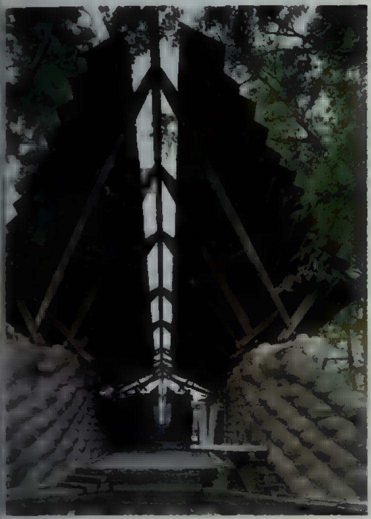
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ourdes Legorreta photo*

FEATURES

Introduction 69

MCA/Universal Child Care Center 70 *Los Angeles* — *Rios Associates, Architect*

Postcards From the Edge 74 *Hale County, Alabama* — *The Work of the Auburn Rural Studio*

National Center for the Arts 78 *Mexico City* — *Legorreta Arquitectos; Teodoro González de Leon; TEN Arquitectos; Luis-Vicente Flores; Grupo LBC Arquitectos; Sordo Madaleno Arquitectos, Architects*

St. John's College 92 *Oxford, England* — *MacCormac Jamieson Prichard Architects*

BUILDING TYPES STUDY 735/Justice Facilities

"From Courthouse to Prison" 98 — *Essays by Tom Ichniowski and Barbara Nadel*

Alabama Judicial Building 100 *Montgomery, Alabama* — *Bargainier Davis Sims, Architects Associated Gresham Smith & Partners, Associated, Architects*

Kent County Correctional Facility 104 *Grand Rapids, Michigan* — *Kenneth Neumann/Joel Smith and Associate, Henningson, Durham & Richardson; and The Design Forum, Associated Architects*

THE PROFESSION

Indicators 23 Construction Volume, CAD Use
Work and Family 24 Balancing the Equation
Building Security 42 Safeguarding Berlin's New Embassy; Coping with Threats from Bombs to Break-Ins
Software Reviews 53 Allplan from Germany; Two "Personal Information Managers"
New Products/Briefs 60 Tile-Replicating Stone

Editorial 9 Faces of Justice

Letters/Calendar 4
News 11
Observations 19
Product Literature 115
Manufacturers' Sources 120
Classified Advertising 125
Advertising Index 126
Reader Service Card 127

Letters

Housing Tax Credits Criticized

In your editorial [RECORD, January 1996, p.7], you conveniently sidestepped any presentation of the substantial flaws of the program, which fall into two main categories: financial and architectural...

Financially, the program is quintessentially Reaganesque. It is costly and delivers little on the dollar to the poor for whom the credit was intended when the passive-loss allowances were discontinued in the 1986 Tax Reform Act.

As much as 50 cents on every dollar goes to overhead in the form of expensive syndication fees to accountants and attorneys. What finally reaches the project in capital form is meager at best. To overlook these failings because no other viable form of financing exists is a reason to establish a better form of financing, not to keep a dubious program alive.

Furthermore, you neglected to discuss the arguments of HUD Assistant Secretary Michael Stegman who, since the days when he was chairman of the Department of Planning at the University of North Carolina, has presented compelling evidence illustrating the costly effects of "layered financing" which accompany virtually all tax credit deals...

You fail to even mention the really sorry part of the tax credit, which is decidedly architectural...

Projects are awarded financing on a competitive basis and the [illegible] competitive projects are [illegible] that concentrate lots of [illegible] in one place. Invari[illegible] in project de[illegible] the architecture is once again asked to compensate for poverty, a completely unwinnable, though commendable, proposition.

Only in California, where housing costs are astronomical, does the credit, in effect, enable rental housing to be produced for the working poor and moderate-income wage earners outpriced in the market. Elsewhere, tax-credit projects have an incredible tendency to serve only low-income people who in less expensive markets tend not to be the working poor around whom a sustainable community can be envisaged...

The argument Al Eisenberg and others should be making instead is not to preserve the tax credit because it's "virtually the only game in town," but to modify it so that people of varying incomes can find rental housing in close proximity to those of different incomes, and, when possible, in the same project...

Charles Buki
Loeb Fellow
Harvard University
Cambridge, Mass.

Washington Monuments: Battles Over the Mall

There have been a number of articles (just over 400 to date) written about the Korean War Veterans Memorial in Washington, D.C., since its dedication last July. The public and the military press have been very generous in their praise. For the most part, however, the architectural press has taken a more critical view, spawning several articles similar to Roger Lewis's piece in your last issue [RECORD, January 1996, pages 17, 19 & 21].

Lewis's article is a very articulate commentary on the problem. The National Park Service is very

continued on page 109

Calendar

March 1-31

Atelier Forum Ltd. "New York Avenue: Ideas Wanted" exhibition of work by architects and designers of proposals for the New York Avenue corridor will be on display. Call 202/945-6532 for Washington, D.C., location.

March 17-19

Restoration 96, Baltimore Convention Center, Baltimore, MD. An exhibition and conference for those interested in traditional and historical building techniques and products. Call 508/664-8066.

March 15-May 2

"Civic Lessons: Recent New York Public Architecture" exhibition will display 69 projects initiated by 23 agencies at The Rotunda, Alexander Hamilton Custom House, Bowling Green, Manhattan. Sponsored by the New York Chapter/AIA and the New York Foundation for Architecture. A day-long symposium on April 18 is also scheduled. Call 212/663-0023 or fax 696-5022 for more details.

Through March 22

The paintings of Lida Stifel, whose work incorporates fragments of architectural plans, is on display at the AIA Library and Archives, 1735 New York Ave., Washington, D.C., Call 202/626-7300, fax 626-7421 for more information.

April 7-21

"Spring School of Mediterranean Architecture: Multi-Cultural Responses to Time, Place Climate," Foundation for International Studies, University of Malta. AIA members may accrue 130 CES Learning Units for this program (AIA/CES No. F123). Contact: Jean Lillick, Tel 356/234121; Fax:356/230538; e-mail: jkil@unimt.mt.

April 10-12

Conference on Urban Infrastructure for the 21st Century, Los Angeles Convention Center, includes a Green Business

continued on page 109

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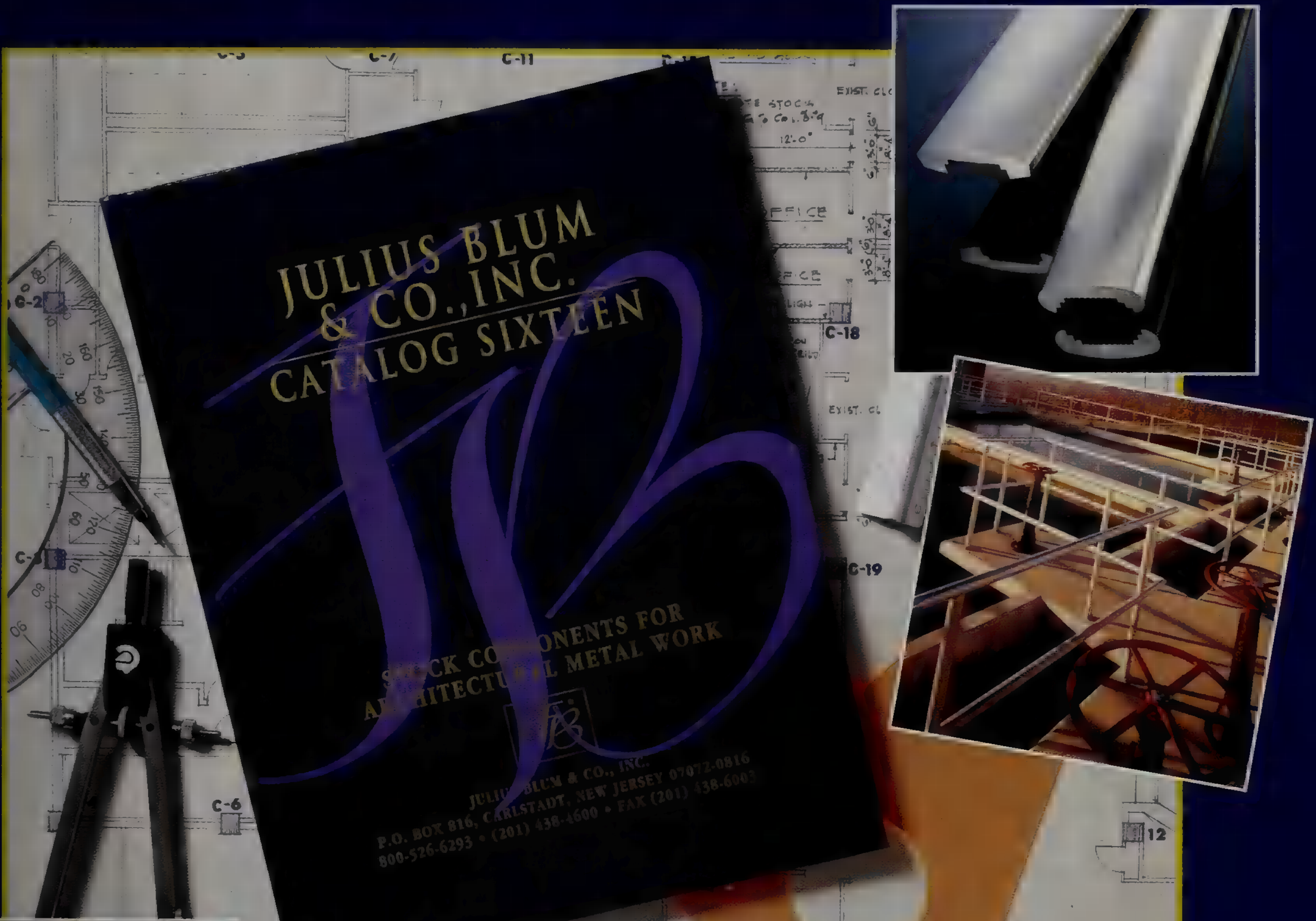

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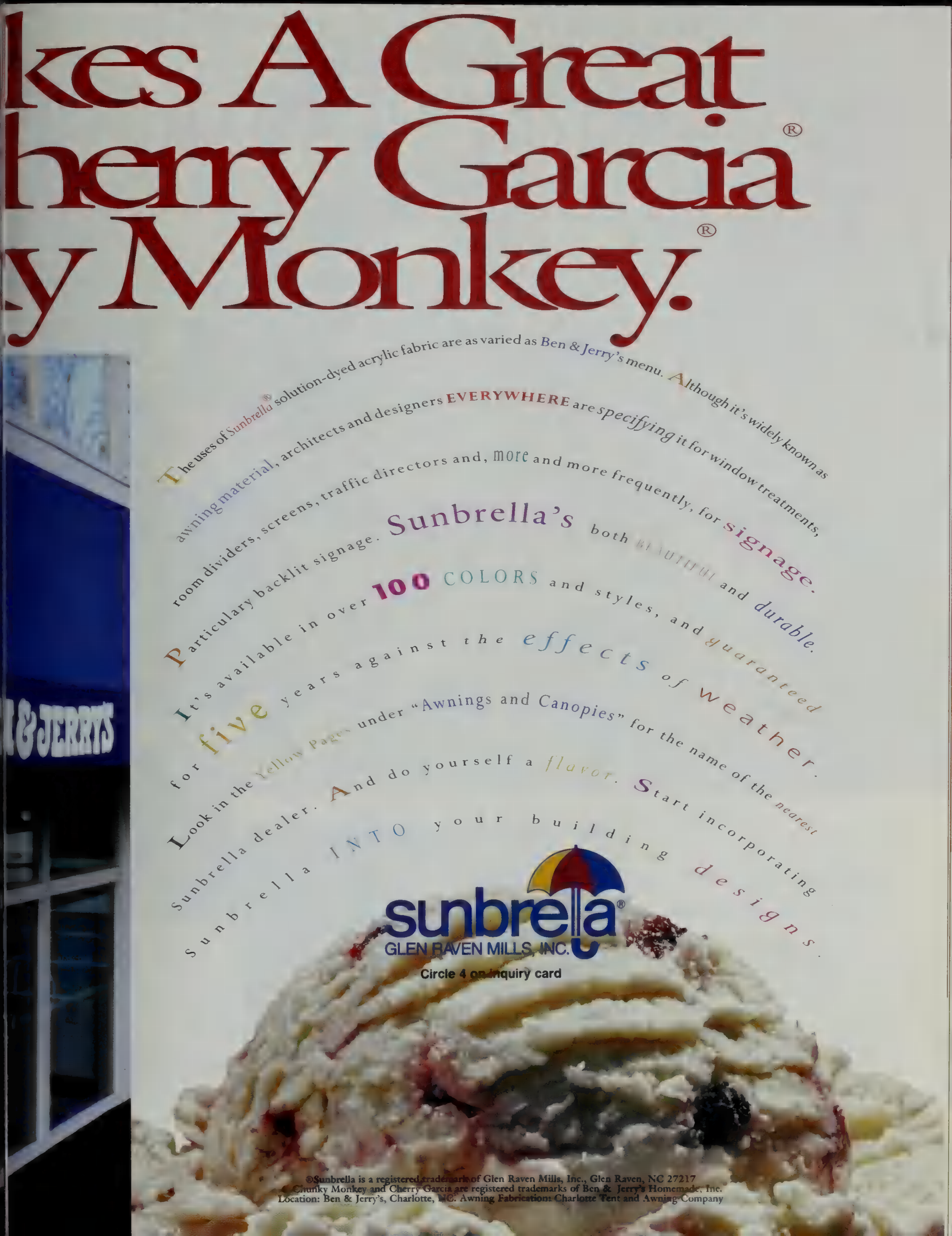

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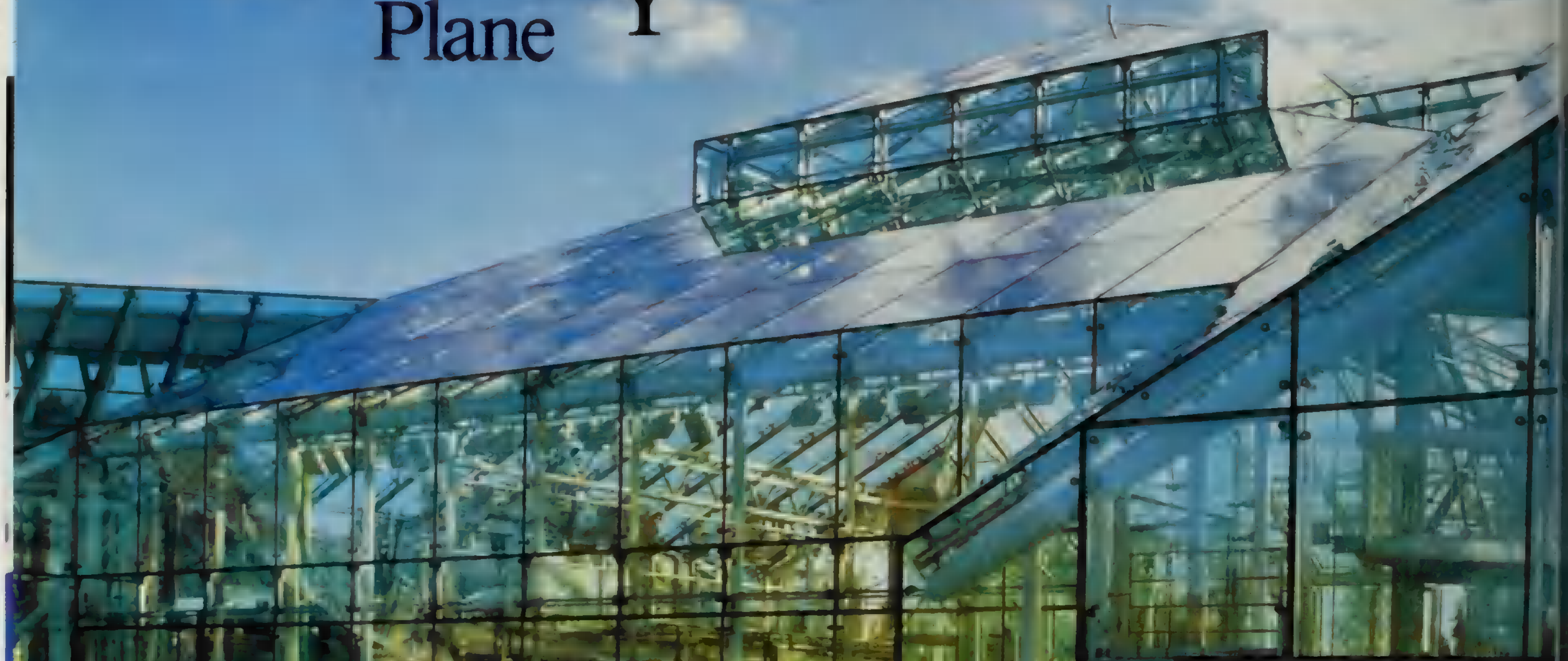

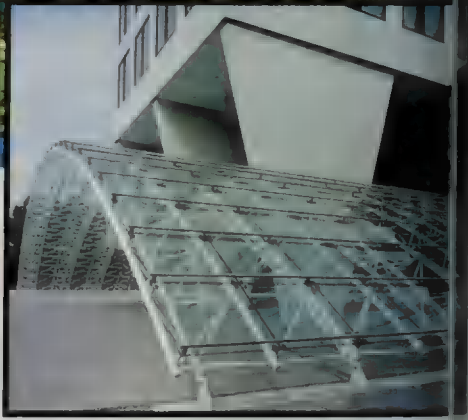

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ARCHITECTURAL RECORD Editorial

Faces of Justice

Seldom has the role of public buildings in our society been better stated. On a recent winter evening Supreme Court Associate Justice Stephen Breyer, speaking at this year's AIA Accent on Architecture dinner, captured, in the span of twenty minutes, the essence of what public design is all about. His theme was, not surprisingly, the architecture of justice, and because that's also the theme of this month's RECORD Building Types Study, I want to share with our readers the highlights of his message. Justice Breyer, before his elevation to the Supreme Court, worked closely, along with Judge Douglas Woodlock, on the new, Henry Cobb-designed Federal Courthouse in Boston, where he was the model of the enlightened modern client:

"[The] responsibility of a Justice," he said, "is not so very different from your responsibility, as architects of our public space. You must design... buildings that work properly, but you also must do more. Both in function and design, those buildings will embody and reflect principles that tell the public who uses or sees them something about themselves, their government, their nation; and in doing so, those buildings may help us live together better as a community—or they may not. Indeed, the story that a building tells through its design can be as important to the community it serves as [is] its function, for, by shaping our thoughts about ourselves and our institutions, it will directly affect our efforts to work productively together."

One day Cobb showed Justice Breyer the picture (which he kept taped to his mirror) of a courthouse built in Virginia in 1735. Made of brick and wood, it contained one simple courtroom and a front porch. It was located at a crossroads. Citizens gathered daily on its portico. "We saw other pictures," Breyer went on, "that suggested a change in the 20th century. And that change was not always for the better. We saw some courthouses that looked... more like faceless office buildings. Some even looked a little like prisons. The architectural challenge, Harry [Cobb] said, was to recreate a building embodying certain civic virtues of the 18th century Virginia courthouse, while... responding to our judicial system's 21st century need for many courtrooms, many judges, many lawyers, many administrators, and avoiding many security risks."

Speaking of the Boston courthouse, Breyer referred to buildings as conveyors of certain civic messages. "A judge, for example, is a public servant, not a potentate. We wanted to create a courthouse and courtrooms the design of which would focus upon lawyers and their clients carrying out their business, rather than create a kind of regal processional towards a judicial throne... The courtroom is the home of the law, not the judge... Neither is the judge a bureaucrat, nor a courthouse a bureaucracy. A court, unlike a government agency, concerns itself not with the public en masse, but with the individual citizen who appears before it...."

Justice Breyer also commented on the length of the design process: "Harry Cobb told us that not so many years ago, it took only a few phone calls to obtain the necessary support for an important building project. He told us this as we prepared for our thirtieth public meeting on the subject. [The process of meetings with a great number of different groups]... took time, but it also created understanding, it built support, it produced change, and the result is a building that will better serve the public."

The legal and the architectural professions each exerts huge leverage on the public culture. It's encouraging to see enlightenment beamed from such a high place.
Stephen A. Kliment

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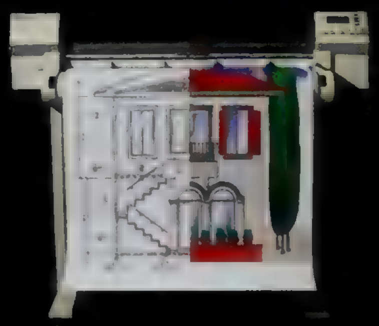

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ew twist on the panopticon (a round prison
h a central guard), the town has been
talling acoustic sensors that can pinpoint a
nshot to within 10 yards of where it was
ed. According to local police, just the sug-
stion of the new device—is it watching or
't it?—has reduced crime. Developed by
lon Technology, the system cost a modest
,000.

mpetition
e Van Alen Institute in New York City has
nounced "Public Property," an ideas com-
ition for Governors Island, located at the
thern tip of Manhattan in New York
rbor. Once home to the U.S. Coast Guard,
island is currently for sale. Entrants are
ouraged to explore "ideas of site, 'the
oan,' and properties of the public by recog-
ing the endowments of city life."
bmissions are due April 17. A first prize
ard of $10,000 will be made. For additional
ormation call: 212/924-7000.

nsitions
arlos Zapata Design Studio, based in
ami, has joined with Benjamin Wood, for-
rly of the Cambridge, Massachusetts firm
ompson and Wood, to form a new firm,
od & Zapata, with offices in Miami and
ston.
larquis Associates of San Francisco has
sed its doors one year after the death of its
nder Robert Marquis. The 40-year-old
n built its reputation on housing, educa-
nal, and civic projects.
lfred Swanke has died. A co-founder of
anke Hayden Connell, a firm known for
h-profile restoration projects, including
Statue of Liberty and the Senate and
preme Court chambers in Washington,
., Swanke had retired in 1982.
eorge M. White, former Architect of the
pitol, has joined the firm of Leo A. Daly,
ich has 17 offices worldwide, as a special
istant to the chairman. ■

Venice, Italy

Historic Opera House Goes Up in Flames

La Fenice, Venice's opera house, was destroyed by fire on January 29. Nestled in the San Marco district, it was one of the city's gems, an unusually vertical theater with a towering curved wall of ornate balconies. It has long been associated with composer Giuseppe Verdi, who premiered "La Traviata" and "Rigoletto" there. The theater was born of fire: it was commissioned in 1774 after the San Benedetto Theater burned to the ground. In 1836, La Fenice (or the phoenix) rose from ashes after another fire. This time, in a horrible irony for a waterbound city, fire boats were unable to reach it because surrounding canals were being dredged. A helicopter finally doused the flames. The city estimates it will take $62 million to rebuild it, but others predict as much as $300 million. Luciano Pavarotti is planning a concert to raise money for the restoration. ■

©Eric Uhlfelder photo

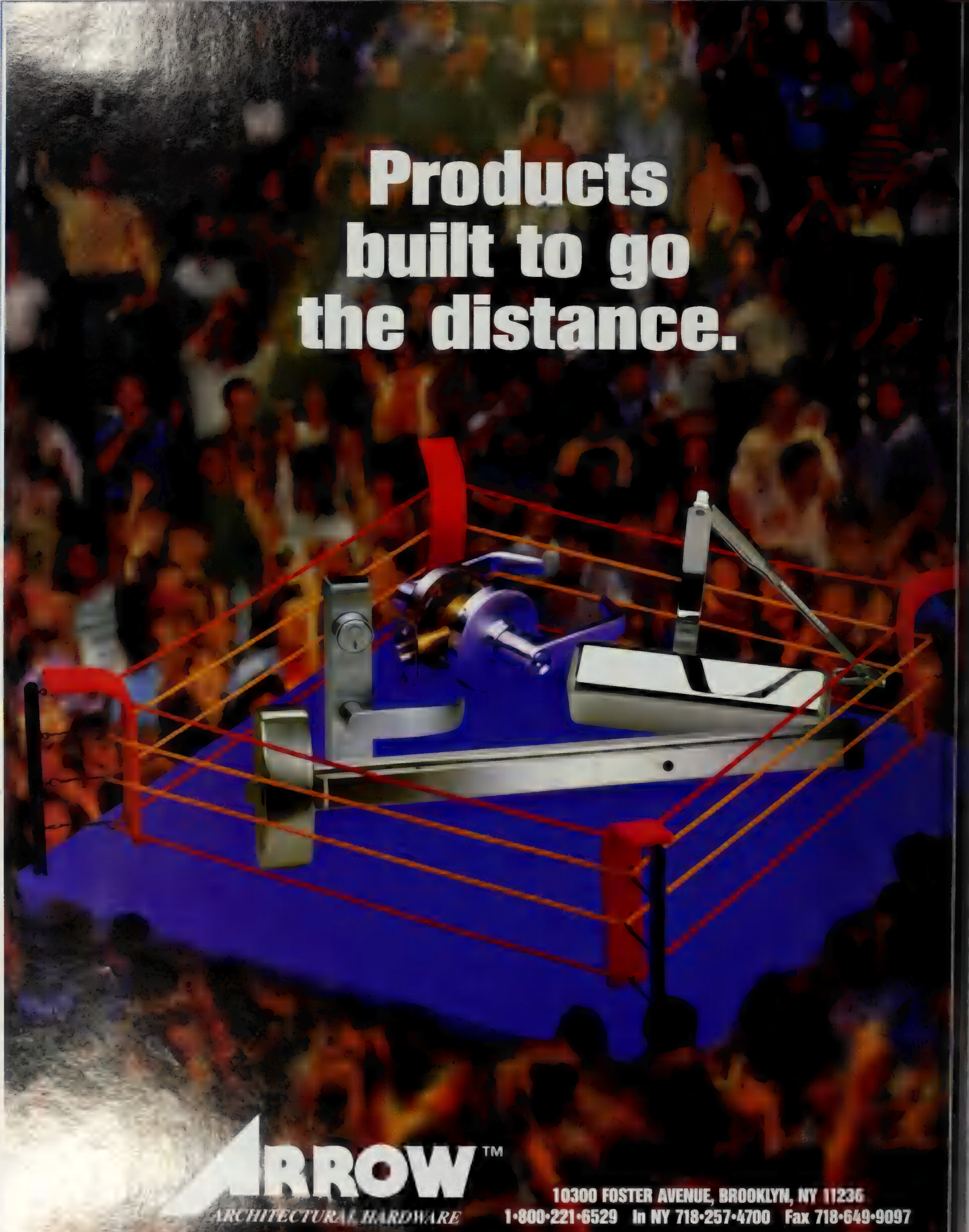
Los Angeles

Koolhaas Cast in a Lead American Role

Rem Koolhaas has been tapped for his first American project by Edgar Bronfman Jr., the Seagram Company's chief executive. Bronfman's recent acquisition, media giant MCA, has hired the Rotterdam-based architect and his Office for Metropolitan Architecture to design a new headquarters for MCA/Universal as well as the master plan for Universal City, a sprawling 415-acre complex, in Los Angeles. (Seagram acquired 80 percent of MCA from Matsushita last year.)

The project—now in the early planning stages—will include a new office building, at a still undetermined location. It will replace former MCA chairman Lew Wasserman's black-glass Modernist tower. "Part of the interest will be reestablishing the importance of the development companies, since that is where the ideas begin," says Koolhaas of the commission. In selecting Koolhaas, Bronfman continues a family tradition of bold architectural patronage begun in the 1950s by his grandfather Sam Bronfman and aunt Phyllis Lambert, who hired Mies van der Rohe in association with Philip Johnson to design the Seagram Building on Park Avenue in New York City. Lambert is also the founder of the Canadian Center for Architecture.

The Los Angeles project is part of Bronfman's plan to remake the famed entertainment conglomerate in his own image and establish his credentials in Hollywood. Movie-making also makes an entry on Koolhaas's resume: he supported himself as a scriptwriter in Amsterdam before beginning his architecture studies at London's Architectural Association. *Nicolai Ouroussoff*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he City By the Bay Goes rom Port To Sport

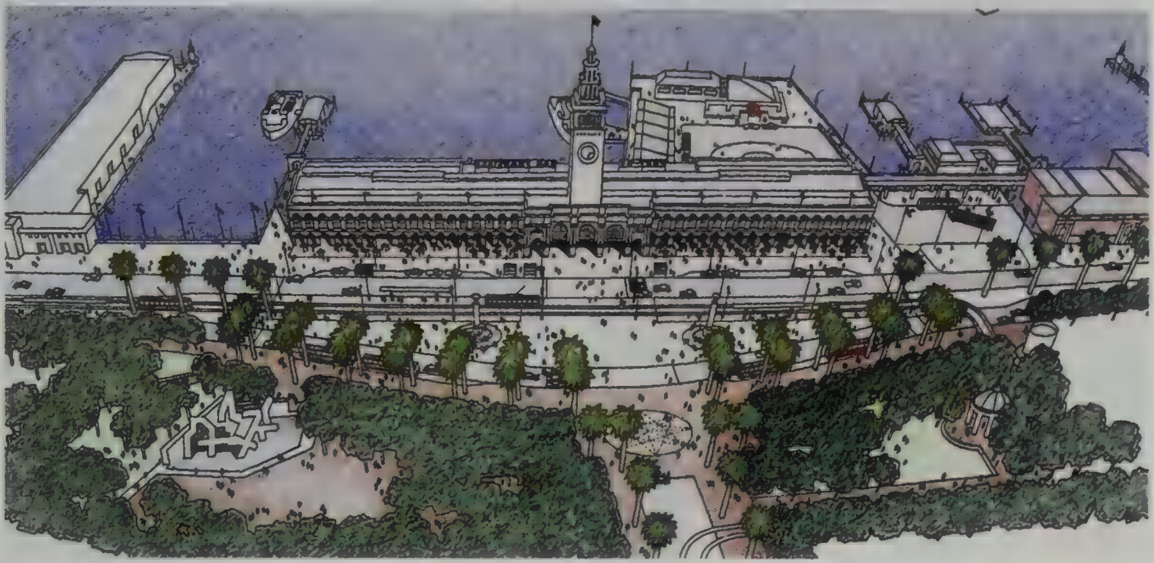
San Francisco, a city threatening to ome a giant theme park of itself, there are places where the urban fabric opens up eveal the true nature of the place: Market eet—the seam that runs from the heart of old port, through the financial district, t the Union Square shopping area, past Civic Center, and out to the gay ghetto of Castro—and the Embarcadero, the long that traces the city's seawall from the pty railroad yards of China Basin all the y to the evocation of a maritime past at herman's Wharf. For decades, San Franco has tried to make these two avenues o its defining image. Now that most of the nning battles are over, they have become a ror of the city: a polite, recreation-orient- slightly romanticized urbanism.

rket Street—the great divide

rket Street has been the subject of redeopment since the late 1960s, when the new y Area Rapid Transit System (BART) tore the street before disappearing underund. It took the local streetcars (MUNI) h it, leaving the street as a wide mall. ough there is some car traffic, it is so conicted that most drivers avoid this diagonal nector. Red sidewalk pavers, signs, and rse planting coordinated by Lawrence lprin in the early 1970s have long given street an aura of architectural rendering hout vitality. It is not so much a central ery in the manner of New York City's th Avenue or Chicago's Michigan Avenue a furrow that splits two grids and histori- characters of the city: to the north, althy commercial and residential neighhoods; to the south, industrial districts.

e distinction has evolved over the last few rs with the movement across Market eet of both housing and offices, as well as h the growth of the cultural/convention cca of Yerba Buena Center [RECORD, vember 1994, pages 74-83]. Yet Market eet remains bleak. Recently, hopes that Emporium department store would come k to life as Bloomingdale's and an adjat building would become Barney's have n deferred by economic realities.

at *has* happened is what appears to be the steps of sprucing up the street furniture. NI now once again runs a streetcar line down the middle of Market Street. It features vintage trains, each painted in 1940s colors. The city has created handicap-accessible stations with elaborate paving patterns at a reputed cost of $100,000 per ramp. Palm trees now adorn the upper end of Market Street. At the lower end, French company J.C. Decaux has erected green rotating kiosks and newsstands. As part of the company's agreement with the city, it has also provided self-cleaning toilets of similar design, which seem to want to evoke a Parisian past this street never had.



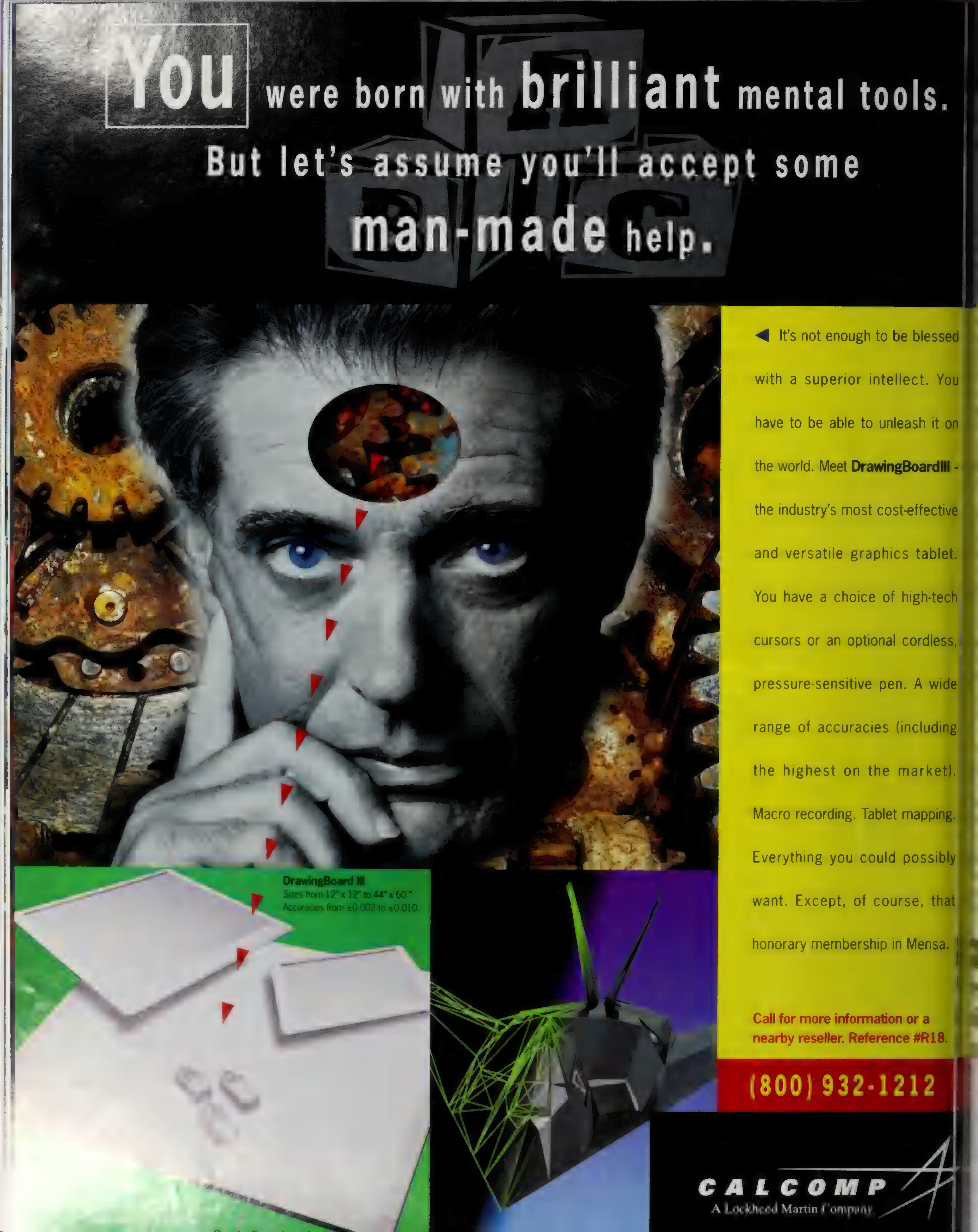
Where Market Street and the Embarcadero meet: Roma Design Group is helping to make the transition from maritime use to recreational activities.

The Embarcadero as playground

The Embarcadero is equally empty, but well-appointed. The Roma Design Group is overseeing the completion of an elaborate replanting and repaving of the whole stretch of what used to be the dock's connector. This redesign is also the result of changes in transportation infrastructure: after years of fighting, the city decided to tear down the site's elevated "freeway to nowhere" that had been damaged by the 1989 Loma Prieta earthquake, creating new open space. MUNI is now laying a light-rail line here that will initially jut connect the tourist areas to the north to the new yuppified housing enclave at South Beach and a proposed baseball stadium, but may perhaps run all the way to the southern end of the city. Roma's design is remarkably tough and sparse for a firm known for its Postmodern pyrotechnics on such projects as the Santa Monica Third Street Promenade, though old-fashioned street lamps add that *olde* flavor. A double row of palm trees defines the line of the new tracks. Concrete blocks, set into the quay at different intervals and bisected by glass bricks, are Stanley Saitowitz and artist Vito Acconci's contribution to defining the street.

For Roma's Boris Dramov, the Embarcadero is "marking the transition from a maritime area to a place of recreational opportunities." At the same time it is "maintaining the myth of maritime activities that is important to how the city sees itself." The city has leased some of the Beaux-Arts piers that stick out from the Embarcadero, allowing both design offices and old-time shipping uses to continue while the city tries to "convert them to more recreational uses," says city planning director Lu Blazej. The Embarcadero's future seems to combine the image of a port city, but without its attendant grit and grime.

The clearest sign of how the city wants to see itself is the place where Market Street and the Embarcadero meet: the Ferry Building at the end of Market Street. An empty shell, for years there have been big plans—from skyscrapers to an airport—for what was once the turn-around of street cars and the arrival point for ferry commuters. Now Roma is designing a discreet series of little plazas, an arched entry from the remaining ferries, and a set of objects to "hold this vast new space," as Dramov calls it. "It is a mosaic. It's not one thing, and never has been," says Dramov of the proposed Ferry Plaza. That's what the city now wants: a pleasant amalgam of street furnishings, pavings, and plantings that signals its transformation into the recreational capital of the Pacific Rim. *Aaron Betsky*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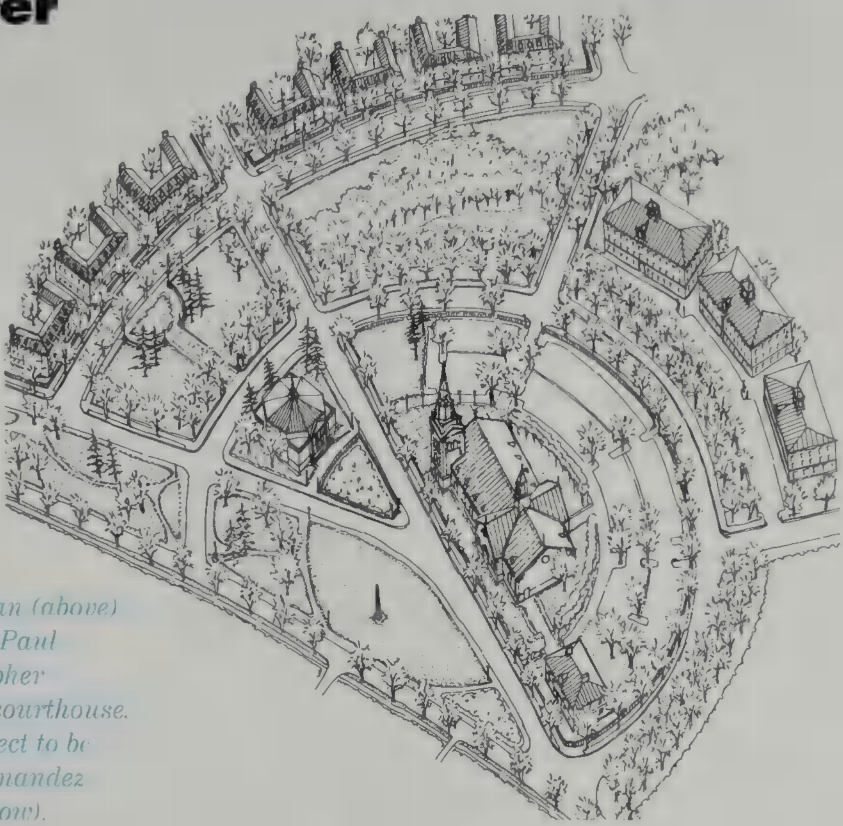
istoric Town To Get New Master lan and Courthouse

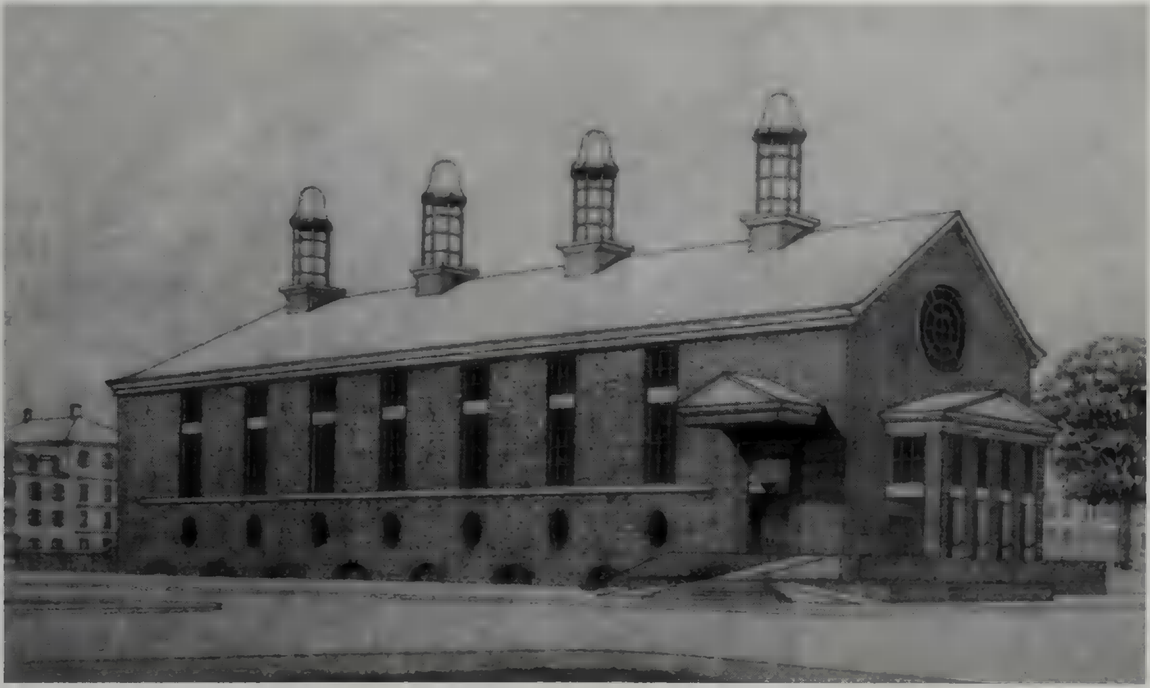
hel Dionne, Paul Milana, and Christopher
enon are the winners of a competition for a
ster plan for Williamsburg, Virginia,
ch will give new focus to the historic town.
e three architects work at Cooper Robert-
& Partners in New York City.) The
-acre plan is situated on what is now
stly forest to the northwest of the Colo-
-era town. In the somewhat organic
ign, wetlands define several small neigh-
hoods that are organized around a civic
e. The new village will include 2,000 resi-
tial units, one million square feet of retail
office space, and civic buildings such as a
ary and post office. Each major "node" is
ked by a public structure, visually tying
plan back to the old Colonial town.



The winning town plan (above) is by Michel Dionne, Paul Milana, and Christopher Stienon. The county courthouse, which is the first project to be built, is by Jorge Hernandez and Francis Lyn (below).

related competition, a design by Miami-
ed Jorge Hernandez and Francis Lyn was
sen for Williamsburg's new courthouse.
courthouse, the first building to rise in
new development, will be the latest in a
ies of such structures built during the
n's long history. The original, in historical
liamsburg, was part of a Georgian-style
itol building. Another was built in the
0s, a third in the 1930s in a new shopping
rict, and the most recent, a banal modern
ding, in the 1960s.

Hernandez and Lyn's version of the court-
se, three cupolas will filter natural light
a series of staggered courtrooms below.
ourth cupola will top the lobby. Exterior
k will be laid in a cruciform pattern
ical of the region. Inside, austere wood
eling is meant to create an almost
ker-like simplicity. The $9 million, 72,000-
are-foot building is scheduled for
pletion in 1998. *N.O.*



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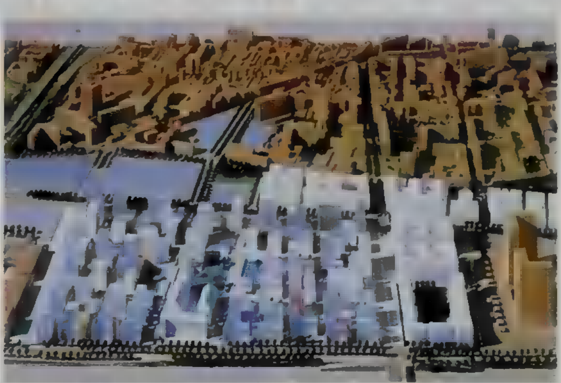
ortzamparc uilds up Paris' ast Side



© *Michel Donance*

Christian de Portzamparc has won the urban design competition for the Massena section of Paris along the Seine River and adjacent to the new Library of France by Dominique Perrault [RECORD, December 1995, pages 19-21]. Portzamparc chose to open the traditionally closed *ilot*, or island block, creating a village-like configuration of housing and offices. The project, which incorporates the Grands Moulins historic grain silos, is to begin construction 1998. *Claire Downey*

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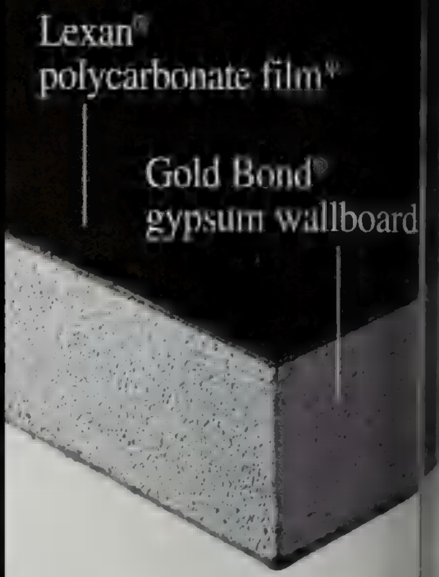

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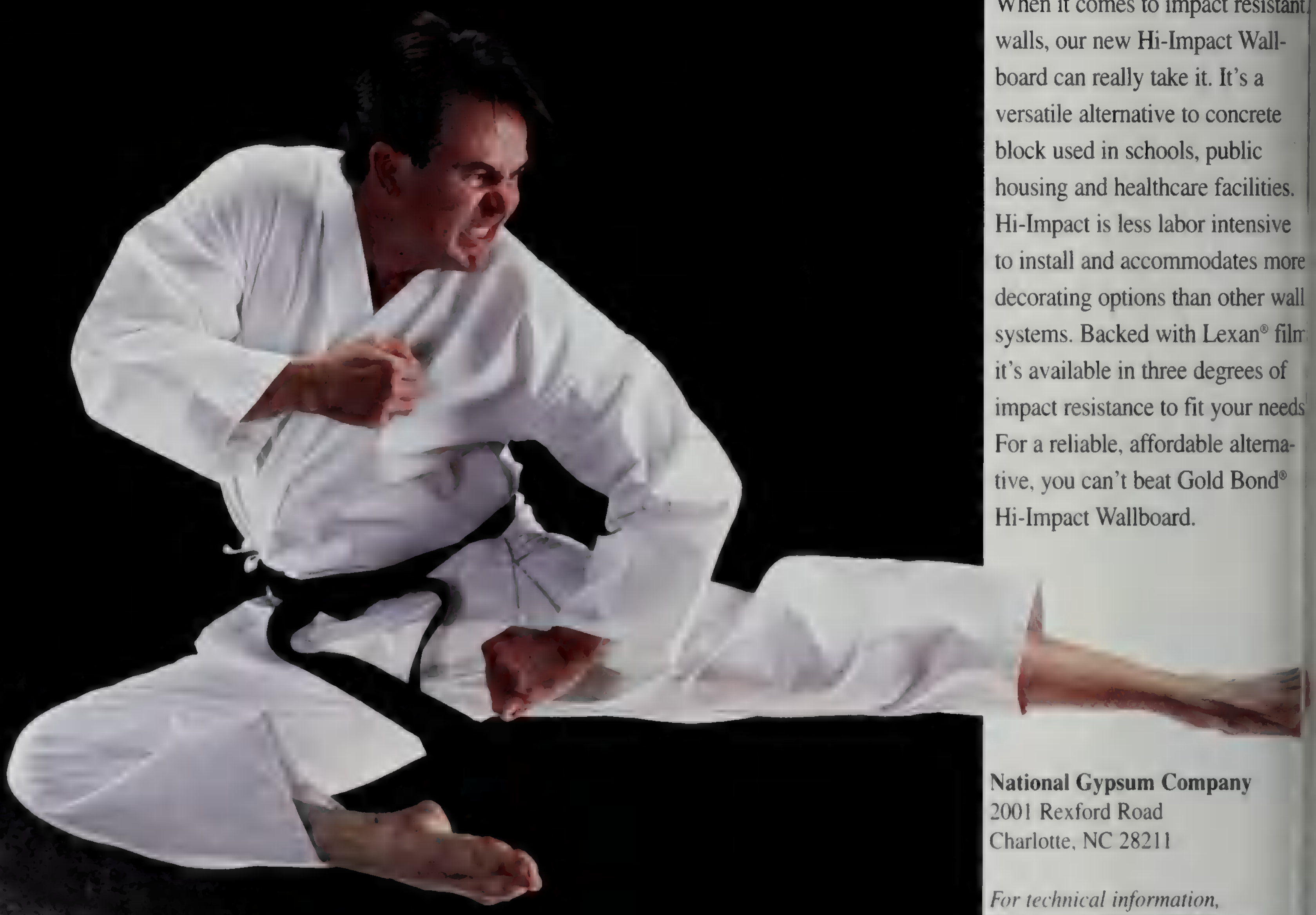

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sian Cities: Is 'Generic' he Wave of the Future?

Rem Koolhaas stirs up strong emotions at a Singapore conference by saying the loss of cultural identity can free the architectural imagination.

ie loss of cultural identity is not a theoretical question in Jakarta. new business core (above) is emerging as if from a blank page.

At the same time, an older part of the same city (above) awaits new development, unsure what direction it will take.

© *Clifford Pearson photos*

w issues arouse such passion among Asian chitects as maintaining their cultural iden- y in the face of rapid globalization. With cDonalds and Kentucky Fried Chicken anchises popping up on street corners from oul to Shanghai, and highrise office towers oking alike whether they're in Manila or anhattan, a lot of designers in Asia are orried about the way their cities are cur- ntly developing.

ie mega-forces of international finance and ulti-national capitalism that are transform- g Asia seem, however, to be impervious to ltural distinctions and national character. oreover, the design architects for the ggest and most prominent construction ojects are usually Western firms with little derstanding of local building traditions or ltural nuances. Indeed, foreign firms are ually hired to inject a Western, internation- or Modern sensibility into the local ndscape.

when Dutch architect, author, and *agent ovocateur* Rem Koolhaas addressed the oic of globalization in his keynote speech at Singapore conference last November, the dience of mostly Asian architects listened enly. The conference, entitled "Asian Cities Asia's Century," was organized by the chitects Regional Council Asia RCASIA), an umbrella group of 15 nation- institutes of architects.

But instead of exhorting his listeners to resist the forces of homogenization, or preserve historic structures, or devise ingenious ways of infusing local character into modern buildings, Koolhaas told them such a battle was hopeless. The driving forces behind the globalization of their cities were just too big for architects to resist in any meaningful way.

Architects can't change the calculus

"Cities, like airports, are becoming all the same," said Koolhaas. Architects could yell and scream all they want or design pagoda roofs for 50-story skyscrapers, but none of this would alter the basic calculus behind the standardization of their cityscapes. Some of the architects at the Raffles City Convention Centre (designed, of course, by an American architect, I.M. Pei, in a sleek Modern style) were stunned by such a notion.

"Instead of resisting this globalization, we should theorize about it," advised Koolhaas. "Perhaps we have to shed our identities. Perhaps identity is constricting us." There was no irony in his voice and it soon became clear that Koolhaas was nothing if not earnest. In his rapid-fire delivery, he suggested that architects should view the current situation as "a blank page for us to work with"—even as "a liberation."

"What is left after identity is lost?" asked Koolhaas. "The generic." But instead of being horrified at the thought of plain-wrap buildings in interchangeable cities, Koolhaas stated that today "brand names are less important than the generic. The city is now a plain envelope. And regret about the loss of history is just a reflex" that serves no useful purpose. Indeed, such regret is like the "phantom pain one feels in a limb after it has been amputated" and is long gone.

In his new book, *S, M, L, XL (Small, Medium, Large, Extra-Large)* [Monacelli Press, 1996], Koolhaas explores these same ideas, saying globalization "astronomically expands the realm of possibility, for better or worse." But while most people today shudder at the thought of architects playing for "astronomically" large stakes, Koolhaas is clearly energized by it. Bigness, of course, is one of his favorite themes and, as he showed at Euralille in France, he is more than willing to start with a blank slate and build on a grand scale. Most architects, though, are much less cocky. As he puts it in his book, the architectural "profession is in a profound state of denial. Following its fright instinct, it runs away from the possibly ridiculous to miss a rendezvous with the sublime."

Koolhaas has long been critical of urban planning in the world's rapidly developing cities. Using outdated notions of zoning and masterplanning, the profession doesn't realize that the rules of the game have (*Continued*)

changed, he told the ARCASIA conference. Instead of dealing with the process of growth, architects and planners continue to focus on individual products—buildings and urban compositions. Even when planners address the realm of infrastructure and map out subways and roads, they end up creating separate enclaves rather than connecting people and places. The irony, declared Koolhaas, is that "Real urbanism seems to have died just as all this urban building is going on," in Asia.

Landscape, not masterplan

In place of the current approach to planning, Koolhaas proposed a broad but vague notion of "landscape," which would "accommodate the accidental and the chaotic" and would be the "outcome of a process" rather than the product of a specific plan. "Landscape is cheap, fast, and flexible," he explained. Although he never made clear who would initiate this process or even participate in it, Koolhaas seemed to imply that landscape would provide the connective tissue—the muscles and tendons, so to speak—controlling the architectural bones of the city.

Give Koolhaas credit—he stirred things up and got his audience to rethink the basics of what they do. During the question-and-answer session, a few of the architects were apoplectic in their response to his call to turn their backs on their old cultural identities. Others found some truth in Koolhaas's radical approach and searched for ways of bridging the gulf between the profession's current methods and the brave new world Koolhaas evoked.

Tunney Lee, professor of architecture at the Chinese University of Hong Kong and one whose own career has bridged the gulf between East and West (having studied and worked in the U.S. before returning to Asia a few years ago), agreed that the old way of planning no longer applied to Asian cities. "Planning criteria such as standards and codes may indeed be outdated," he said. "But criteria as values may still apply."

"We are high-density societies," said Lee, who had stated earlier that high-yield rice cultivation had traditionally supported higher population densities in Asia than wheat cultivation in the West. This powerful agricultural base helped shape the particular character of Asian cities.

"Asians are comfortable living with contradictions," asserted Lee. "The building and the garden, for example, or Confucianism and Taoism. Perhaps globalization and localization can exist together too." While globalization has brought a great deal of uniformity in architecture, Lee wasn't convinced this went much below the surface. Shanghai may have new skyscrapers that could have been plucked from Houston or Atlanta, but workers in those towers still speak Chinese and live differently than Texans or Georgians. "Our language and our food may be changing," said Lee, "but they're changing very slowly. Asian rituals and customs won't go away just because McDonalds comes along."

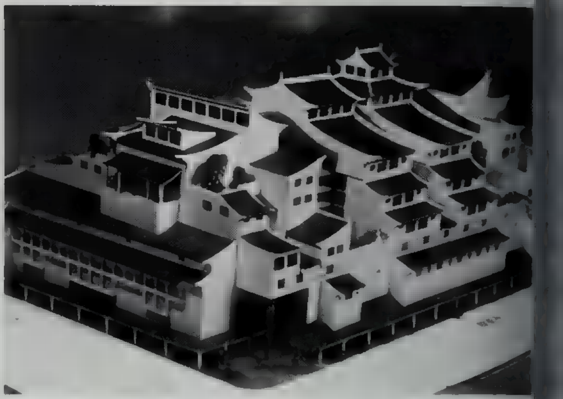
The users of architecture are often forgotten factors in judging the impact of buildings on a particular place. People change buildings so they look and feel different after a few years. Winston Churchill said, "We shape our buildings, then they shape us." But we continue to rearrange our buildings even after the contractor says they're finished. Additions are made, surface treatments changed, interior partitions knocked down, and furnishings reshuffled. People from different cultures use, work in, and live in buildings in different ways—even if the buildings start out the same. The generic quickly becomes specific.

Modernism in a local setting

Responding to differences in climate, terrain, materials, and building traditions, Asian architects today are struggling to develop indigenous forms of Modern architecture. One approach is to adopt or adapt vernacular forms to modern buildings: the pagoda-roof tack. Although easily dismissed as simplistic, this approach has great appeal with many clients and much of the general public, especially for projects in historic places.

Hong Kong-based Tao Ho, who studied under Josep Luis Sert at Harvard and worked for Walter Gropius in the 1960s, has found his architecture changing in the 1990s as he does more work in China. A Modernist who once designed for himself an office made of 24 used shipping containers, he recently designed a mixed-use complex in the historic city of Suzhou, using curved roofs and other traditional forms. Building in a place with "a rich cultural background sometimes requires th architect to suppress his ego," says Tao Ho.

Designed by Hong Kong architect Tao Ho, this 350,000-sq-ft retail/office/residential complex in Suzhou, China, adapts tradition al forms to a modern building type.



Other Asian architects are exploring ways o adapting a Modern vocabulary to local settings and conditions. T.R. Hamzah & Yeang Malaysia, for example, has been designing highrise buildings for two decades that respond to tropical climes with "skycourts," sunshading, and natural ventilation [RECOR March 1993, Pacific Rim, pages 26-31]. In Si gapore, Tay Kheng Soon and his firm Akite Tenggara II developed a detailed plan for a Tropical City that uses passive solar strategies and lots of natural vegetation to create modern metropolis working in harmony wit its environment. No pagoda roofs here.

Despite Koolhaas' projections, the generic i not the answer for downtown Beijing or Hanoi. Architectural imagination can be stirred just as well by responding to existin conditions and ancient fabric as by wiping t slate clean. Indeed, it is the messy interpla between conflicting approaches that has always made big cities "delirious" places. T future of Asian cities will be determined by the constant give-and-take between various forces: not just that of mega-capitalism, but also those of historic preservation, Modernism, green design, cultural identity, national bureaucracy, entrenched corruptio enlightened planning, and the individual architect. It's not a tidy process and there's no formula to balance competing forces. Bu as with acupuncture, acute pressure applie by skilled practitioners at key points along the way can help heal the body politic. It's quite a science, but it's been practiced for thousands of years and it sometimes works *Clifford A. Pearson*

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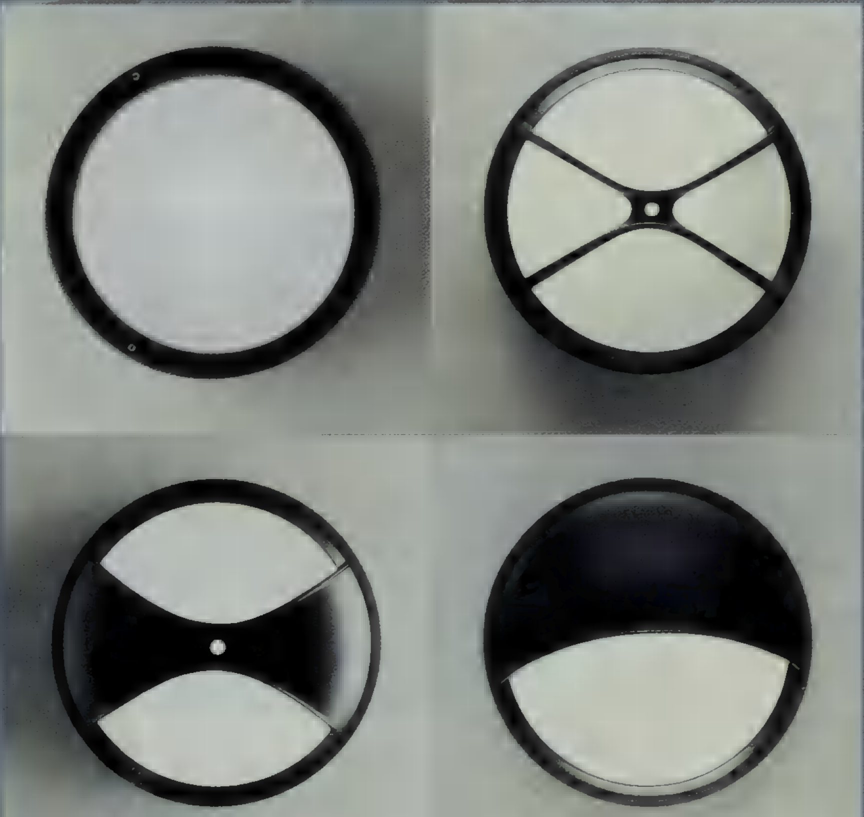

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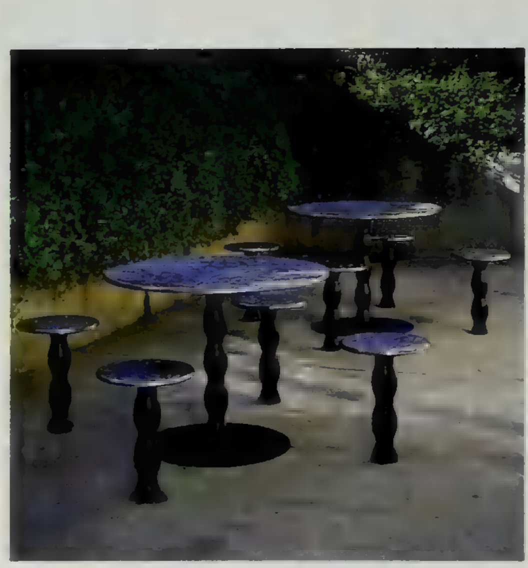

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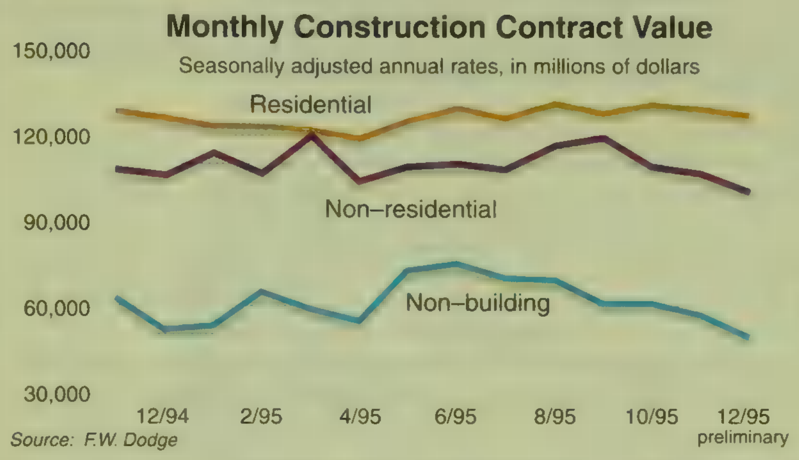

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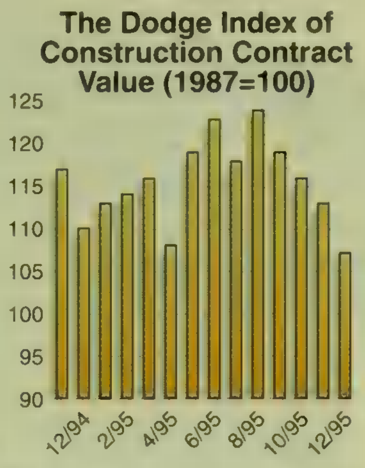
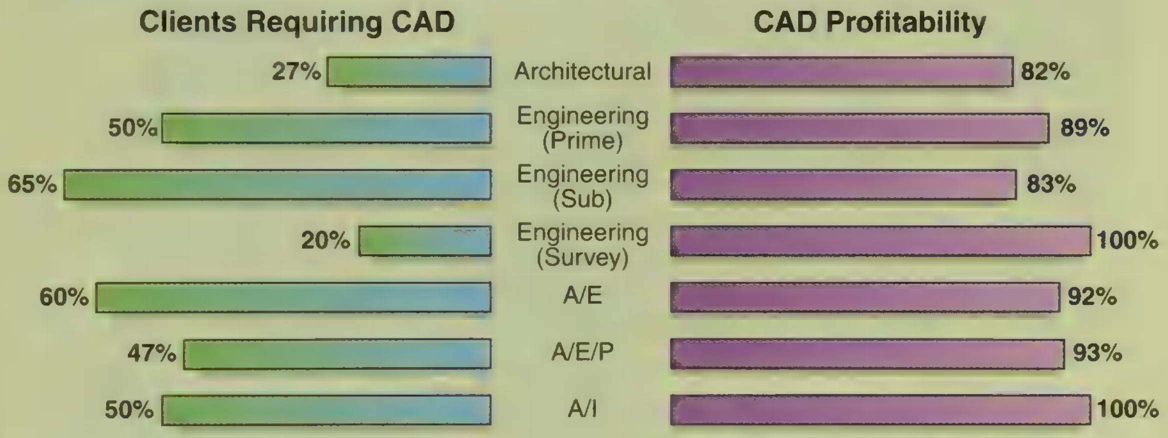
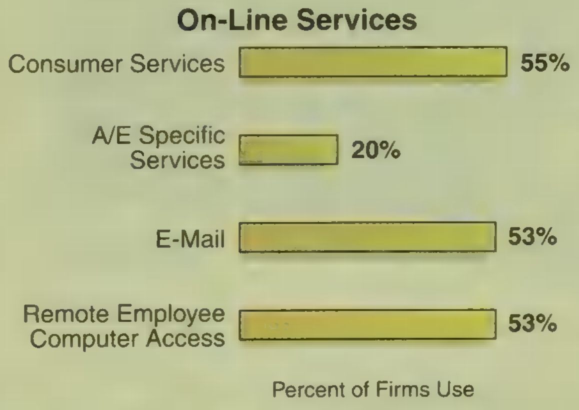


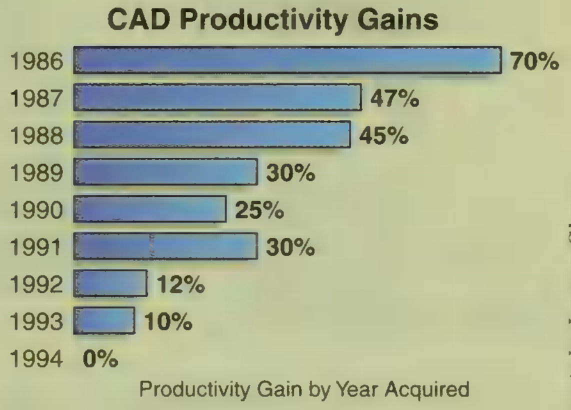
D and on-line services make inroads

hitects and engineers have somewhat dif- ent experiences with CAD, according to MJ's 1995 Office Automation and CAD vey." All-architect firms find CAD less fitable than most engineers or multi-disci- e firms. And fewer architects' clients uire CAD. (Only 17 percent of all respon- its were required by clients to use a given lication.) Survey respondents (who repre- t larger firms than the architectural rage) are increasingly using e-mail and sumer on-line services, but relatively few A/E-oriented services like AIAOnline.

ms that have had CAD the longest realize greatest productivity gains, but produc- ty overall is improving. Firms spent more n $3,900 on computer-related acquisition l operating costs per CAD-trained ployee last year. Almost all firms expected xpand CAD. Compared to other types of ns, architects are less able to bill CAD e. The 170-page, $239 survey report can btained from Practice Management Asso- es, 10 Midland Ave., Newton, MA 02158; /965-0055, 617/965-5152 (fax). ■







Source: © Practice Management Associates

Charts by Leanor Glynn

e Profession This Month

mily and Work 24
ilding Security 36
ftware Reviews 47
w Products 60
oduct Briefs 62

Short Takes

- **An end to sealant frustration?** In an effort to improve the often-maddening selection of sealants, a "validation" program has been announced by the Sealant, Waterproofing & Restoration Institute. Independent laboratories supply test data that permit brands to be compared side by side. Information: SWRI, Kansas City, MO, 816/561-8230, 816/561-7765 (fax).
- **Improving masonry design:** The Masonry Standards Joint Committee seeks laboratory test data from actual jobs to verify the compression strength versus that specified. They'll use the data to improve design guidance. Clayford T. Grimm, P.E., 1904 Wooten Drive, Austin, TX 78757-7702, 512/452-2354, 512/452-6315 (fax).
- **Recycling insulation:** Steven Winter Associates, a building-research firm in Norwalk, Conn., has tested insulated panels made with up to 25 percent recycled expanded polystyrene. The panels' performance, little different than new ones, suggests greater recyclability is on the horizon. ■

Balancing the Equation

© Amy Yoes

"His attitude changed so drastically after I had my baby."

". . . questioned my commitment."

"Everything stopped at the office since I'm a sole practitioner."

"It's difficult to guide a project over the phone . . ."

"We think of it as living at the office rather than working at home."

By Sheri Olson

As dual incomes become more necessary, an single-parenthood more common, conflicting demands of work and family are becoming more difficult and stressful. These pressure take a particular toll on women, who contin to bear the major responsibility for family life. But men are not immune, not only because many have child-care responsibilities, but because they must often negotiate care for companions or elderly parents. In the design professions, where long hours ar endemic, the perception is widespread that the "glass ceiling" is thicker for those who put family first. But firm principals and industry observers see an easing of family-work conflicts as a way to reduce employee frustration and keep talented people from leaving the profession.

When Yve Hopen informed the small New York firm where she worked that she was pregnant, her news was met "with a groan from my boss." After being a project architect with the firm for five years, she returne from maternity leave to find a manager que tioning not only her commitment to the firm but also her potential future productivity ar performance. "I can't help wondering why h attitude changed so drastically toward me after I had my baby," says Hopen. She was laid off after returning to work from leave. Her experience is not unusual: new mother are 10 times more likely to lose their jobs than employees taking any other kind of leave, according to 9to5, the National Assoc ation of Working Women.

"Firms want a 200 percent commitment," says a senior level architect. He left a high-pressure New York City firm where he was asked to wear a beeper and expected to be call 24 hours a day. "Since I was one of the few people at the office who had a family ar wanted to leave at a sane hour, the firm was constantly questioning my commitment," h says. The architect has started his own firm in Connecticut and believes that he is bette able to balance work and family in private practice, because "my hours are more flexil

Sheri Olson, an architect, teacher, and wri in New York City, proposed a prototype family-leave policy at last year's AIA 2nd National Diversity Conference.

The burdens of caring for a family member in need may conflict with the demands of work. Family-leave and flexible-work policies can more than pay back their modest cost in morale and productivity.

and I work from home, so that I'm here when my daughters are back from school." He prefers to remain anonymous to keep future job options open. "If firms read that I'm committed to my family, they may question my willingness to commit to them."

The stress of balancing work and family is not limited to people with children. As baby-boomers age they increasingly find themselves caring for ailing parents and relatives, sometimes over great distances. Recently, New York City architect John L. Johnston traveled 2,000 miles to help make home health-care arrangements for his ill 96-year-old grandmother and 94-year-old grandfather. "Unfortunately, everything back at my office stopped, since I'm a sole practitioner," explains Johnston.

Back in his office, Johnston calls several times a week to check on his grandparents' progress and plans to see them again soon. His story will only become more common. By 2020, it's estimated that one in three people will need to provide care for an elderly parent.

There are solutions

Juggling the dual roles of architect and family member—as mother, father, son, daughter, or domestic partner—affects everyone sometime in life. Because family pressures are felt disproportionately by women, they affect the continuing gap between the large number of women entering architecture schools and the small number who ultimately become registered [RECORD, November 1994, page 25]. The resulting divergence from the makeup of the population at large reinforces elitist stereotypes about the profession, which has real implications for its ability to attract clients.

A report from the Federal Glass Ceiling Commission, created by the Civil Rights Act of 1991 to study women and minorities in business, concludes that policies that help people balance their work and family lives support diversity.

Recognizing the stress family obligations can cause, a small but increasing number of firms is providing and supporting family-leave policies, alternative work schedules, telecommuting, and dependent-care assistance. Some firms have adopted family-leave policies in response to the Family and Medical Leave Act (FMLA), passed in 1993. The FMLA requires firms with 50 or more employees to provide up to 12 weeks of unpaid leave a year for any of the following: birth, adoption, placement of a foster child, serious illness of a family member, or the employee's own illness (details, next pages).

Although only large firms are required to comply with the FMLA, family leave benefits any size firm. A 1990 study by the Small Business Administration suggests that family leave may save small firms money by reducing hiring and retraining costs. Small offices may have a greater stake in the success of leave policies, since they are more likely to operate with a family-oriented atmosphere.

Businesses are beginning to realize that success at work often depends on success at home. According to Alexander R. Shapiro, human resources manager at Stone Marraccini Patterson, San Francisco, "Work places are become increasingly competitive in attracting and retaining good employees. Better benefits in areas where people need them help us to compete in the marketplace for talented and skilled architects." Employers often stand to gain the most from family

Components of a Family Leave Policy

A formal leave policy can demonstrate a firm's commitment to balancing work and family, ensure even-handed treatment of requests, and relieve employee anxiety. Although a small firm may not be legally required to comply with federal or local leave requirements, it's still important to have a formal framework, incorporated in the office's manual. The policy should be periodically reviewed and updated.

What a successful leave policy includes

- **Eligibility.** The policy should not be gender specific, even for child care. The definition of family member should include domestic partner.
- **Duration.** Some state and local laws require leaves longer than FMLA's 12 weeks. Allow a reasonable recuperation period from childbirth and time to adjust to child-rearing demands. You want the employee to return to work in good health and with high morale.
- **Notification.** Require reasonable advance written notice of intent to take leave, except in case of medical emergency or unexpected adoption. Requests should be handled by a designated person within the firm. Discretionary approval should only be required for extending leave beyond spelled-out durations. Criteria for discretionary decisions should be described.
- **Transitions.** Clarify expectations and address how work will be handled, both prior to leave and upon return to work.
- **Benefits.** The leave's impact on benefits and promotion should be addressed. Benefits should not be curtailed completely during leave. The firm should state that individuals who take leave will not be held back in their progression within the firm.
- **Reduced work schedule:** Offer a reduced-work schedule for a limited time period for those returning after a birth or adoption. Reduced work schedules may also be offered for child or family care-givers or for employees with chronic illnesses who can still work.

Sources: "A Guide to Drafting and Implementing Workplace Policies for Lawyers," from the American Bar Association's Commission on Women in the Profession (312/988-5522). AIA also offers leave-policy guidance: 800/242-3832. *S.O.*

policies. The stress of meeting demands at the office as well as those at home can affect a worker's health and productivity. When employees don't have to hide or neglect family responsibilities, motivation, dedication, and productivity increase.

One firm's leave policy

Zimmer Gunsul Frasca Partnership (ZGF), the Portland-based 1991 AIA Firm of the Year has had a successful family-leave policy for over 25 years. "Our policy is brief but flexible, and provides latitude," says Janice Finney, business manager and associate partner at ZGF. In addition to family emergencies and parental leave, the 180-person firm will also consider leave for educational opportunities and travel. Their policy exceeds FMLA requirements by offering up to six months of leave and continuing to pay life and disability coverage during absence.

Firms without leave policies wonder how they will juggle workloads and whether they can guarantee a job on return. These have not been a problem for ZGF. "The impact of someone on leave is not that great because of the size of the firm," explains Finney. "Professional staff may be shifted around to cover someone on leave and a temp may be hired to cover administrative staff on leave." An employee returning from leave, according to Finney, "may not return to the same project (since that job may be completed), but we haven't experienced difficulties maintaining a place for someone returning from leave."

Short leaves and working leaves

Sue Kerns, director of interior design services and an associate partner at ZGF, is currently on a three-month "working leave." This is her second leave during 14 years with the firm and she's noticed a change in attitude. "Eight years ago, I was the first person in my office to go on leave and return. Most people at that time didn't come back to work. Now it's accepted practice that you take leave and return," says Kerns.

Kerns is in contact with the office every day either by phone or modem, doing marketing or working with clients. She believes the firm would have been supportive even if she had [illegible] to take a complete break from work. "[illegible] months before my leave, I began to meet regularly with the people in my department to discuss how work would be handled during my absence." While Kerns made the effort to assure smooth handling of her responsibilities, she credits her peers willingness to ease her transition into leave for its success. She finds that "clients are very understanding, because most of them have children, too."

Many managers assume that women won't return after the birth of a child, even if leave is offered. But women with paid leave and other benefits are twice as likely to return to work within six months after childbirth as women without, according to 9to5. Whatever the reasons—family-friendly policies, financial necessity, or dedication to their careers—growing numbers of mothers with infants are in the workforce.

Not all leaves are taken for child care or are of long duration. "More people, men as well as women, are taking leave to care for an ailing parent," explains Susan Appel, human resources director at Kohn Pedersen Fox in New York City. Perhaps a couple of weeks are needed, for example, to help parents through a hospital stay or to assist in the transition to a nursing home. Research by 9to5 shows that more than 10 percent of all elder care-givers quit their jobs because of the pressure of balancing work and family. Leave policies can be especially beneficial to those with AIDS—which usually strikes during prime working years—or those caring for someone with AIDS.

Adjusting benefits to suit family needs

In addition to leave policies, some firms have replaced their separate sick and vacation time policies with paid time off (PTO) to align benefits with workers' changing needs. According to Julie Sprint, director of human resources at Ellerbe Becket's Minneapolis headquarters, "Before instituting a PTO policy, we saw an increasing number of situations that weren't addressed by our separate sick and vacation policies. People needed to take time off to care for children, a sick parent, or even take a pet to the vet. PTO policies give employees the ability to determine the use of their time off with no questions asked." The PTO account combines vacation time (which varies depending on tenure with the company), a floating holiday, and an average of five sick days. Accumulated unused sick days can be used for family emergencies or taken as vacation. To prevent a lengthy illness from eating into vacation time, employees receive short-term disability for illnesses of more than five consecutive days.

It is possible for some parents with young children to use all their vacation time for childhood illness, but the firm's records indicate that on average the PTO policy gives people more vacation time.

"It's ridiculous how easy family-friendly programs can be to implement and administer," claims Alexander R. Shapiro, manager of human resources at SMP's headquarters in San Francisco. The firm began a PTO policy in 1994 to offer employees more flexibility in balancing professional duties and family needs. Up to one year of unpaid leave can be taken under the company's family-care and parental-leave policies. Like other firms, SMP has found the cost of family-leave policies to be minimal, even when the cost of "ramp-up" time for the substitute player is factored in.

Flexibility — a way of life

There is more to a family-friendly workplace than leave policies; firms can also offer alternative work schedules or flex-time. The arrangement might include working at varying levels of intensity at times, depending on the demands of the practice, a compressed work week, or flexible start and end times.

Another option is to reduce or limit workload. A combination of flex-time and telecommuting, regularly or as-needed, can provide the flexibility that allows people to attend to family needs and still get the job done. Firms considering these options should check state and local laws regulating hours and wages, as well as insurance-company coverage requirements.

Since the birth of her second child five years ago, a senior associate at a large Chicago firm has successfully worked a flexible schedule. She prefers to remain anonymous because "our competition could use this against the firm, playing to clients' fears that I won't be n the office." Indeed, some firms decide not o draw clients' attention to alternative work chedule arrangements, and instruct staff on ow to handle calls. "Some of our clients now, but some don't," says the senior associte. "With new clients there is really no eason to tell them until we've shown them hat it has no impact on the service the firm rovides." She attributes the success of her rrangement to the good relationships she eveloped with the firm and clients. Her firm ecently updated its employee manual, and o longer sets fixed office hours.

Vhen best-laid plans fail

'or many parents, quality, reliable child care s the key factor in relieving the stress of balncing work and family. But finding decent nd affordable child or elder care remains a roblem, since there is a chronic and severe hortage of quality care centers. Companies an help by means of resource and referral ervices for dependent care. To help staff andle costs, firms can offer employees a)ependent Care Assistance Program or)CAP. This allows employees to set aside retax dollars (up to $5,000 annually) for ependent-child or elder-care purposes. Funds unused, though, are lost.) Large rms, or associations of firms, can offer onite child care or help organize day care in ne community.

child too sick for day care, or a child-care rovider who is sick, can throw a wrench in a arefully orchestrated day. Recent advances n technology can help, says Larry Marner, a tudio head at Butler Rogers Baskett in Ianhattan. "When our baby-sitter calls in ick, my wife and I take turns staying home ith our two kids. I use my computer and nodem at home to access files over the firm's etwork." He believes that his senior position n the firm makes this arrangement possible, ut he doesn't feel that it's feasible to elecommute for long periods: "It's difficult to uide a project over the phone." Although, he dds, "clients don't care where you're calling om as long as they can reach you."

ome aspects of the profession are particurly well suited to telecommuting, such as pecifications writing, shop-drawing checkg, or working on a defined portion of a roject. Work-at-home can be agreed-to for fixed days of the week or for time periods defined by workload. Benefits of telecommuting include reduced time and travel expenses; the disadvantages can be lost networking opportunities and the isolation of working at home. For the most part, work-at-home arrangements still call for some form of child care, since the image of an architect working at a computer while baby plays quietly nearby is fantasy.

Living at the office

Some architects successfully balance work and family by challenging these terms. Claire Weisz and Ursula Warchol of the Weisz Warchol Studio, New York City, partners in a thriving architectural practice and mothers, live in adjacent lofts. During the day they run their practice out of one space while a shared child-care provider watches the children in the other. The provider is considered another member of their six-person firm. "We believe that consolidating our resources has allowed us to produce better work," says Weisz. Projects include community centers for the New York City Housing Authority as well as commercial and residential work. Their arrangement is successful because home and office worlds are bounded, but each realm is readily bridged when necessary. "We think of it as living at the office, rather than working at home," jokes Weisz. ■

Understanding the Family and Medical Leave Act

The Family Medical Leave Act (FMLA) was the first law signed by President Clinton, and it's final regulations became effective August 1993. The FMLA requires that employers with 50 or more employees must provide up to 12 weeks of unpaid leave a year for any of the following: birth, adoption, placement of a foster child, serious illness of a family member, or the employee's own illness.

What employees are eligible

- Employees must have worked for a public or private employer with 50 or more people during at least 20 work weeks in the current or previous calendar year.
- They must have worked at least 12 months for the same employer and at least 1,250 hours during the previous 12 months.
- They must be able to certify the need for leave.

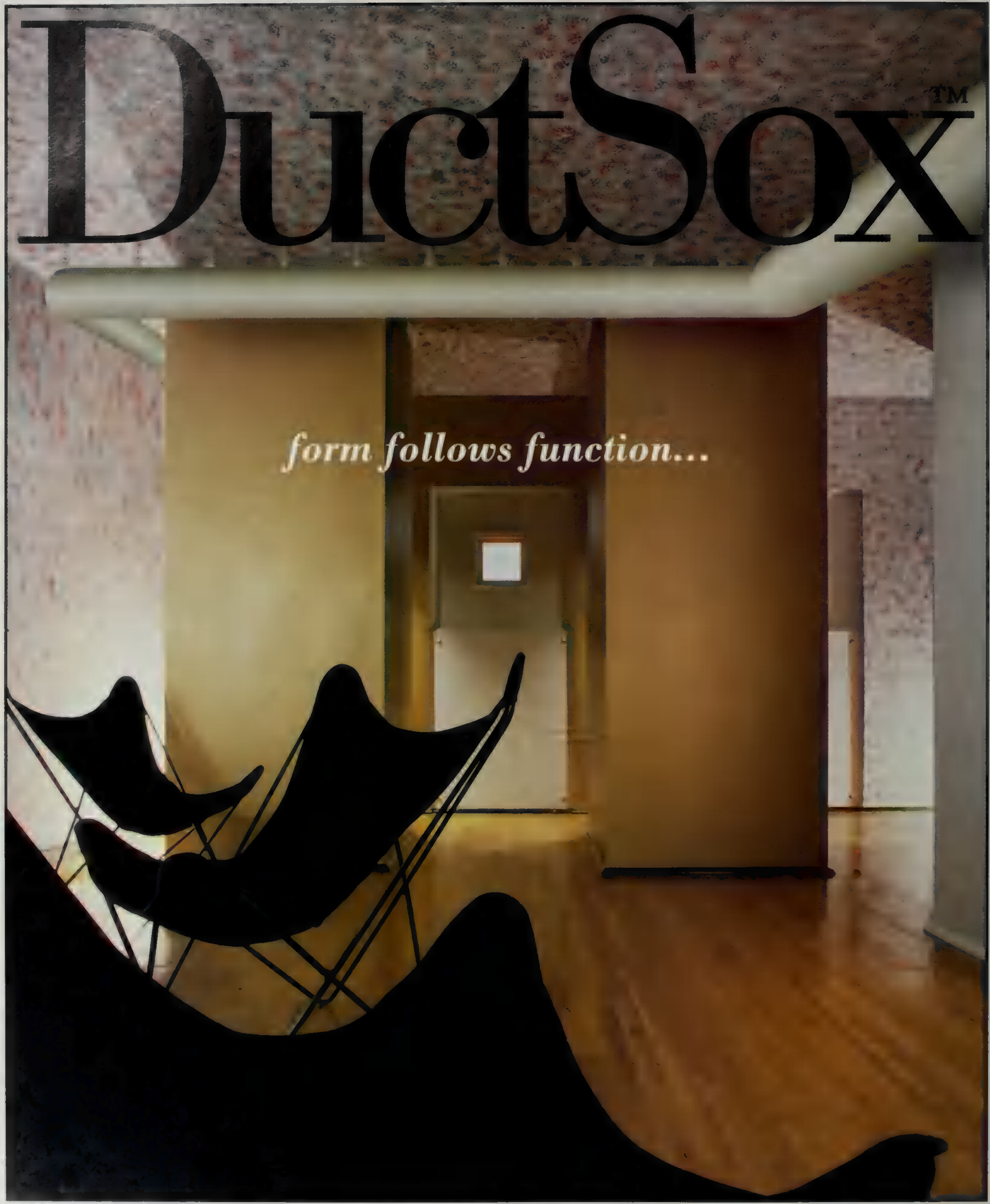
What FMLA guarantees

- Reinstatement to the same or an equivalent position with equivalent benefits at the end of leave. This does not apply to key employees (those earning in the company's top 10 percent) if it would cause grievous economic injury to operations.
- Maintenance of any pre-existing health insurance during leave at the same level and under the same conditions as prior to leave.
- Leave can be taken intermittently or on a reduced schedule to care for a sick family member or for a serious personal illness.

Restrictions and requirements

- Employees ordinarily must provide 30 days notice when the leave is foreseeable.
- Leave may be denied or limited for key employees or employees who work in a branch office of less than 50 people. An employee located more than 75 miles away from other employees is excluded.
- When spouses share an employer, the total amount of leave is limited to 12 weeks.
- An employer may elect or require the employee to substitute any available paid leave, including vacation, as part of family leave.

The FMLA does not supersede any law or agreement providing more generous benefits. The FMLA is enforceable by civil action; complaints are filed with the



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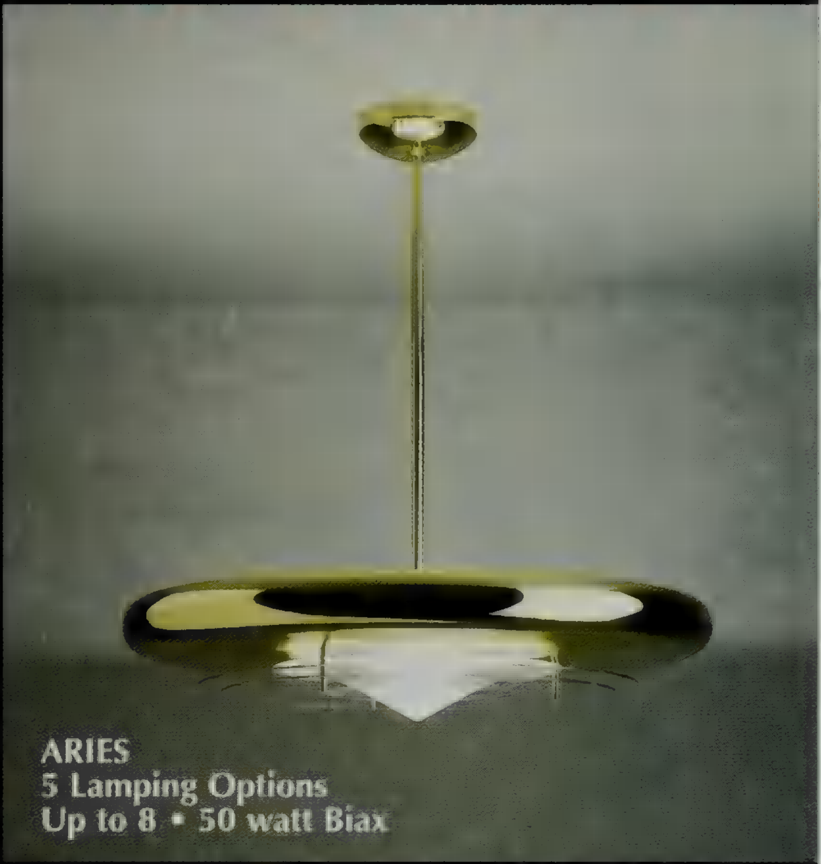

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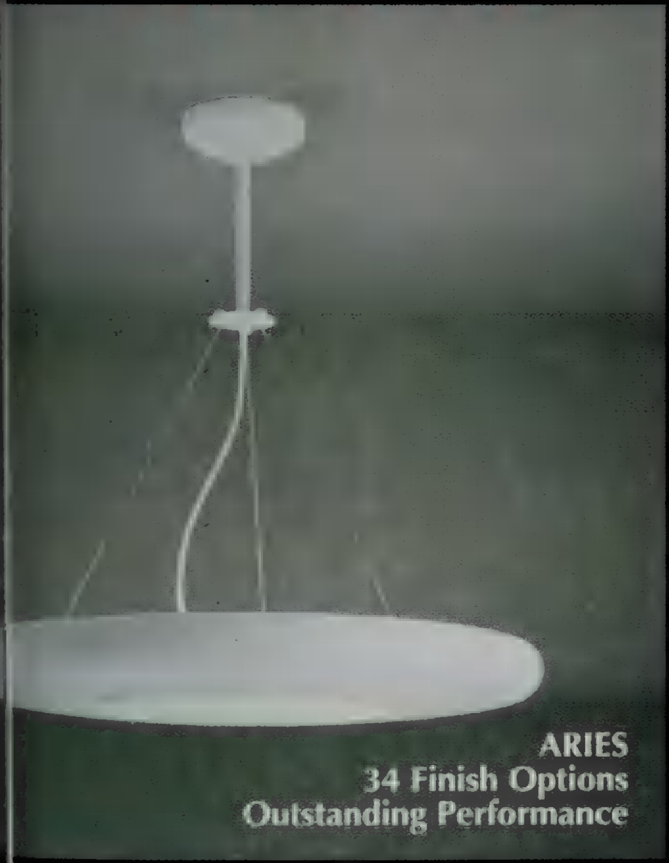

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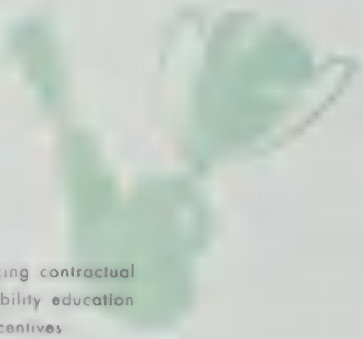

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Berlin's New U.S. Embassy: Safeguarding a Symbol

Berlin's 1788 Brandenburg Gate, today the worldwide symbol of Communism's collapse, is just a stone's throw from the site of a proposed U. S. embassy. Located on the south side of the Pariser Platz that fronts the gate, the project could make a potent statement about America's commitment to the reunification of Germany and the end of the Cold War. Though America's embassy occupied this location prior to the city's division, the fact that it straddles the former Berlin Wall makes it even more meaningful. (The old buildings, severely shelled, were long ago leveled.)

The U.S. Department of State's Office of Foreign Buildings Operations (FBO) recognized the unique importance of Berlin's embassy by doing something it has not done since 1955—select the architect by a competition. The entries by six design teams—winnowed in two stages from a field of 30—aren't heroic statements; they are exercises in architectural diplomacy—each striking a careful balance among competing program issues. Chief among the design challenges was security. Protecting personnel had to be reconciled with State's desire to offer a facility that is inviting to the public, a good civic neighbor, and a register of American values. Writ large, this is the same—often contradictory—charge architects face more and more as fear of crime and terrorism rises.

Secure, but publicly inviting

Competitors prepared unusually detailed entries to demonstrate that they had met a range of constraints. Berlin zoning regulations limit heights and setbacks, mandate flush-to-street walls, even dictate the stone cladding and the punched-window facade patterns. FBO required compliance with a range of energy-conscious and environmentally sustainable criteria. Then there was the program itself, mostly for office space, but encompassing some 28 departments and functions ranging from visa processing to diplomatic receptions.

It is the public nature of an embassy that makes it so difficult to secure, and the reason embassy architecture can be a security-design proving ground. The design criteria developed by the Bureau of Diplomatic Security call for "layered defense," according to Sandra Donovan, a project officer with FBO. The building site deters terrorist or criminal acts through fences or walls, guards, cameras, and control of vehicles and pedestrians. "Mob-type attack" is a concern at the building perimeter, says Donovan, so construction must resist forced entry, small-arms fire, and those who might try and scramble up the facade. "Hard lines" within the building resist physical penetration.

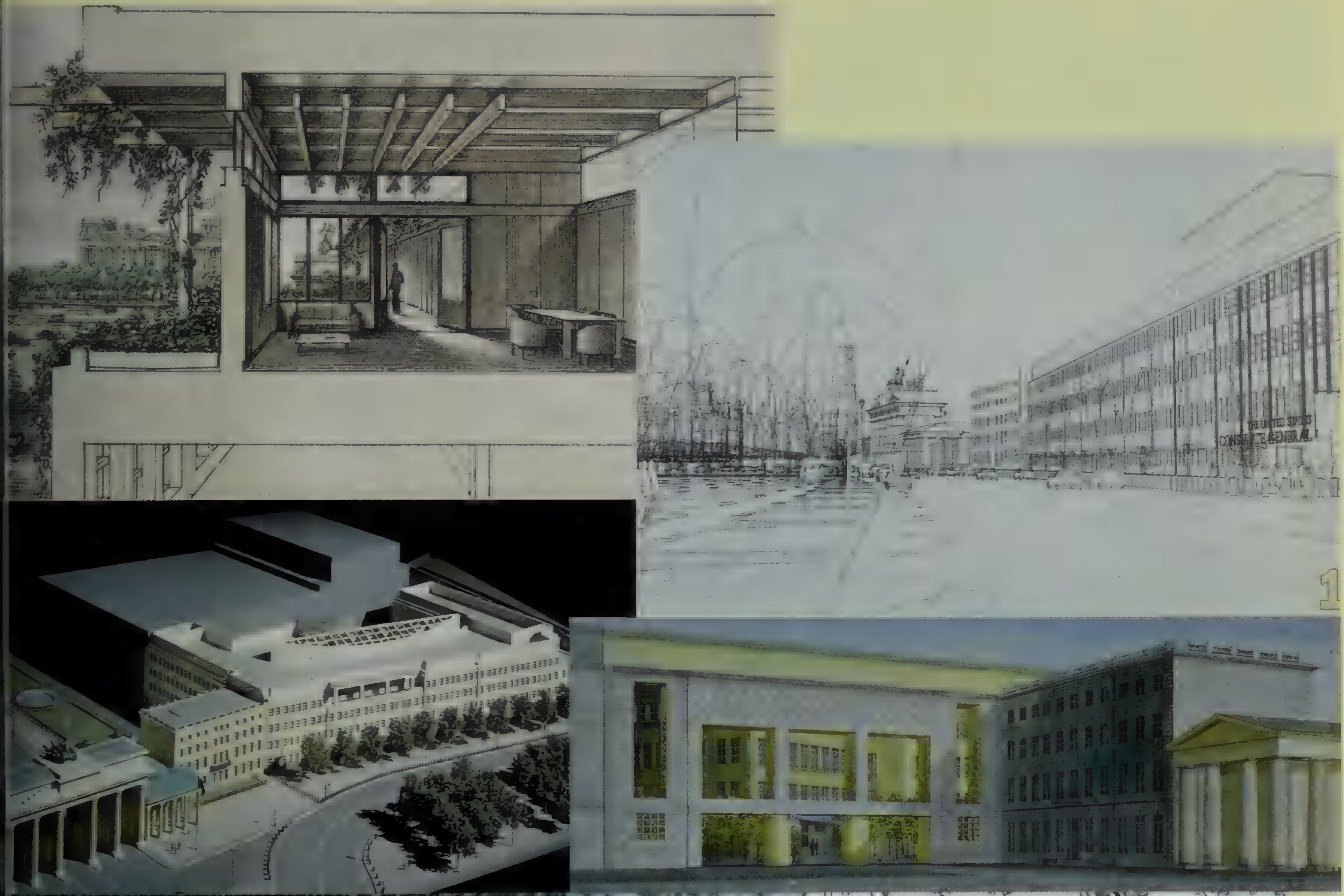
Diplomats can't "live behind walls"

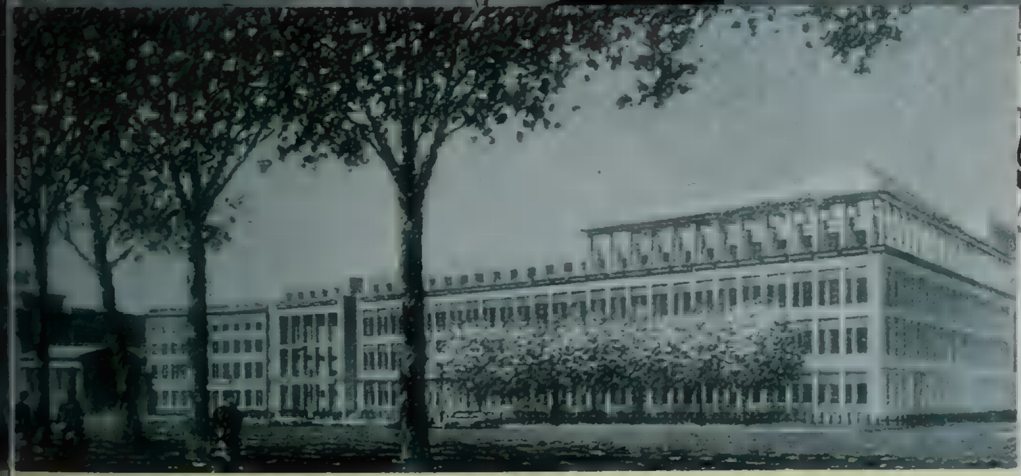
The site of the Berlin embassy is far from a security manager's ideal. It does not allow the 30m (100-ft) setbacks preferred in recent years to absorb car-bomb blasts. It has a prominent elevation on the Pariser Platz, and is exposed on Ebertstrasse to the west (3, opposite) and Behrenstrasse to the south.

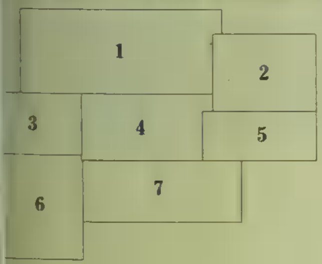
Indeed, the return to Berlin's central site represents a turning point for the State Department. Diplomatic personnel increasingly resisted "living behind walls," comments Patrick W. Collins, chief architect at FBO. Many of the facilities constructed during a sustained (and nearly complete) building program in Latin America and the Middle East were criticized—both within and outside State—as too bunkerlike. Officials found themselves in fortified compounds far from the diplomatic and commercial centers the facilities were intended to serve. These projects had been built following the "Inman standard," pursuant to a 1986 law passed after the bombing of an embassy and Marine barracks in Lebanon. Also, says Collins, the standard "became prohibitively expensive to apply worldwide." Among standards eased in Berlin was the requirement that glazing comprise no more than 15 percent of street-facing walls.

Now, says John Tato, FBO's project manager for Berlin, "there's greater emphasis on specific risk assessment." With limited funds, State will need this flexibility to provide consular facilities in the newly independent states of the former Soviet Union and its satellites. Though the Berlin project is not expected to require appropriated funds (other assets will be sold), the legislative process has delayed announcement of the competition winner, first promised last October. *James S. Russell*

embassy that represents American values in a post-Cold ar world while offering a high level of safety is the kind of sign paradox architects must more often resolve as security es in importance. Six competitors make their case.

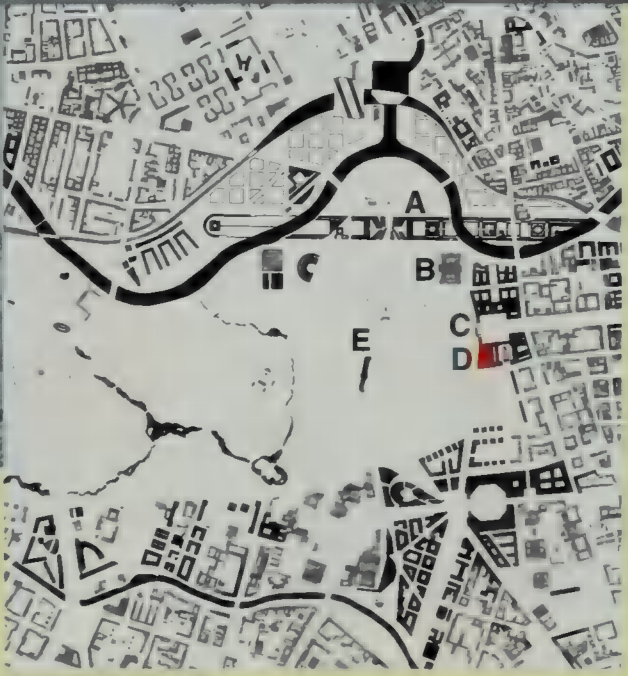






1. BCJ and Swerdrup
2. VSB and Einhorn Yaffee Prescott
3. MRY with Gruen
4. Stern with Leo Daly
5. Roche Dinkeloo
6., 7. KMW

A. Future government center
B. Reichstag
C. Brandenburg Gate
D. Site
E. Tiergarten



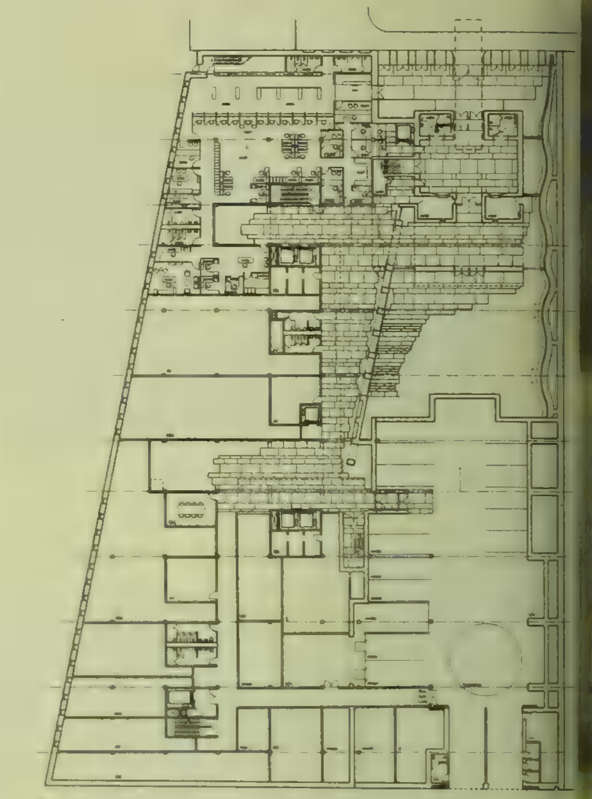
VICINITY PLAN

"The State Department was very open to innovative ways to meet security criteria, because a less-defensive looking architecture benefits its mission."—Bernard Cywinski

Bohlin Cywinski Jackson and Swerdrup Facilities

Burt Hill Kosar Rittelmann Associates (environmental design, energy use); Michael Vergason (landscape); Applied Research Associates (blast engineering), Swerdrup (structural, civil, and mechanical engineering).

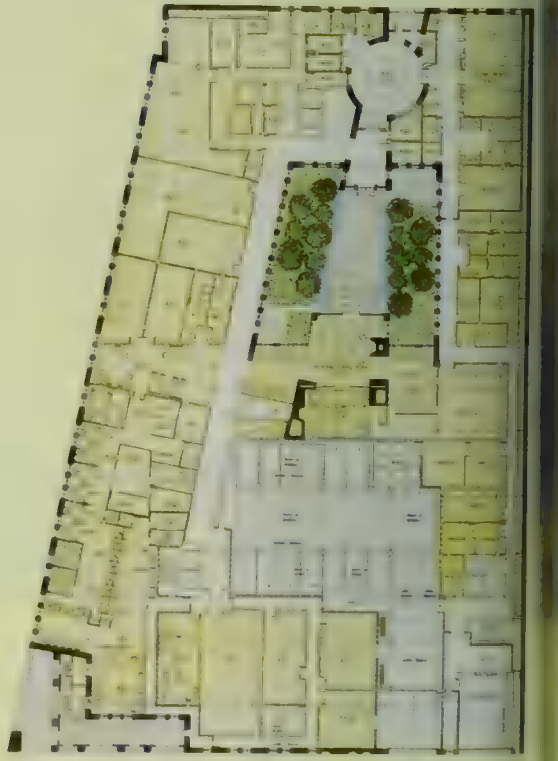
The scheme is divided into three palazzo-like blocks, which step up in height along the Ebertstrasse and away from the Brandenburg Gate (1). To handle blast-resistance criteria on this elevation and along the Behrenstrasse, the architects carved large openings, but set smaller areas of blast-resistant glazing within them. Daylit atriums divide the blocks and bring light into deep-plan office areas, assisted by fabric reflectors. The gaps between the buildings can also cushion blast pressures. Beyond a gated screen wall on the Pariser Platz (top in plan right), visitors move into a visa-processing area facing the square, a stair to a second-floor exhibition area, or straight ahead (down in plan), past Marine guards to the embassy proper. A focal point is the garden occupying the eastern side of the site (2). A fabric panel and a sloping skylight draw winter light into the public entrance and the two-part guarded lobby. The garden slopes up (3), creating an emblem of American wide-open space, screening an outdoor staff-dining area from visitor view, and protecting occupied areas from explosion of a vehicle should it successfully pass the guarded sally port into the receiving and parking area underneath. Less-stringent blast-pressure criteria applied to walls facing the garden. *J.S.R.*

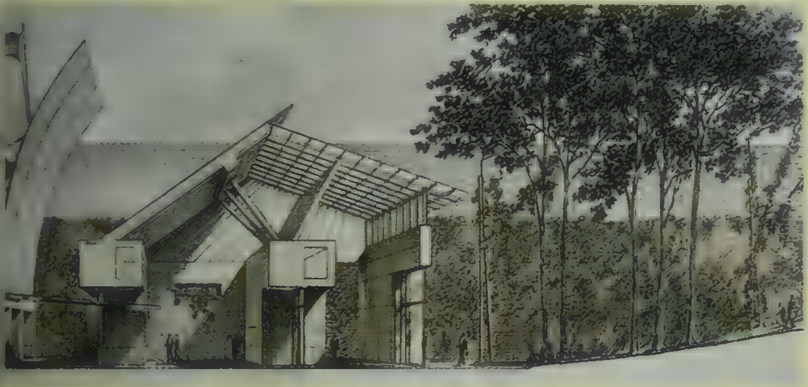


Moore Ruble Yudell with Gruen Associates

Weidlinger Associates (structural and blast engineering); Flack & Kurtz (environmental/sustainable design); Jaycor (security and telecommunications).

The design wraps a courtyard with a low, street-wall building, surmounted by a block aligned to the Brandenburg Gate and Behrenstrasse (4). At this southern side of the scheme, a re-entrant corner and portico greet users of visa and other consular services. Consistent with other schemes, bollards and a parking prohibition limit car-bomb opportunities. The entrance facing the Pariser Platz (plan) is for users of the conference and exhibit center and for [illegible] visitors. Users enter a [illegible] which is set into the [illegible] to protect the courtyard (5). The danger posed by a glass canopy at this entrance was debated, says MRY project architect Cecily Young, among many ideas "security people hadn't encountered." A structure dubbed "the lodge" by the architects, divides the inner courtyard into a lower, public, northern part, and a private southern garden, one level higher. Since FBO prohibited occupied building areas above the parking and loading areas, the upper garden surmounts these areas. The lodge contains staff and private dining, and links all the program areas by bridges and balconies, encouraging interaction among staff, many of whom might otherwise rarely see each other. Because occupied space faces a party wall, the architects turned the requirement for an inspectable, separating void into a narrow, toplit atrium. *J.S.R.*





3

5

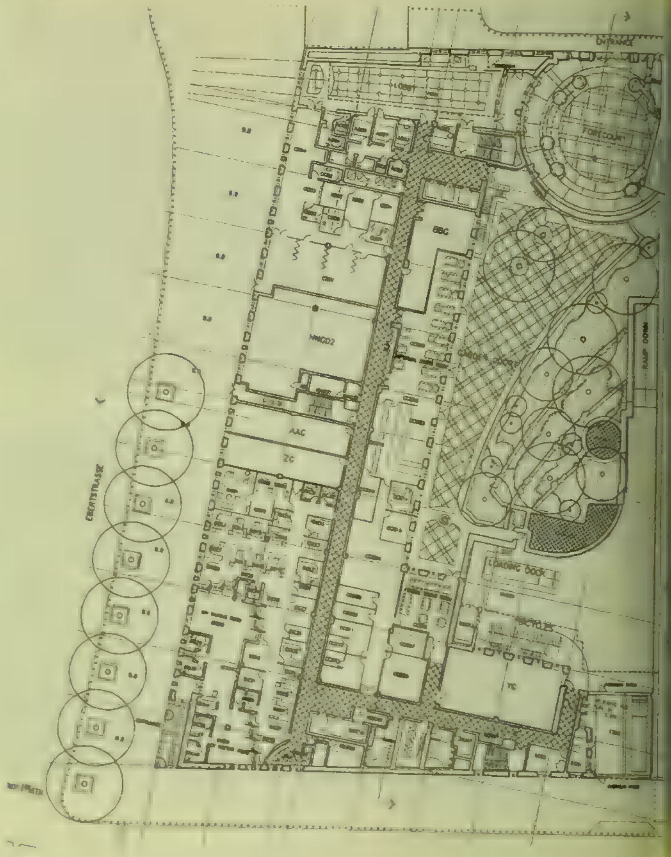
© Del Zoppo photo

"You looked for confluences: Berlin zoning requirements, like facade treatments, certain datums—and the need to reinforce structure for blast requirements."—Rayford Law, Kallmann, McKinnell & Wood

Venturi, Scott Brown and Associates with Einhorn Yaffee Prescott

Leslie E. Robertson Associates (structural engineering); Einhorn Yaffee Prescott (mechanical, electrical, plumbing engineering); Andropogon Associates (landscape); Mueser Rutledge Consulting Engineers (geotechnical)

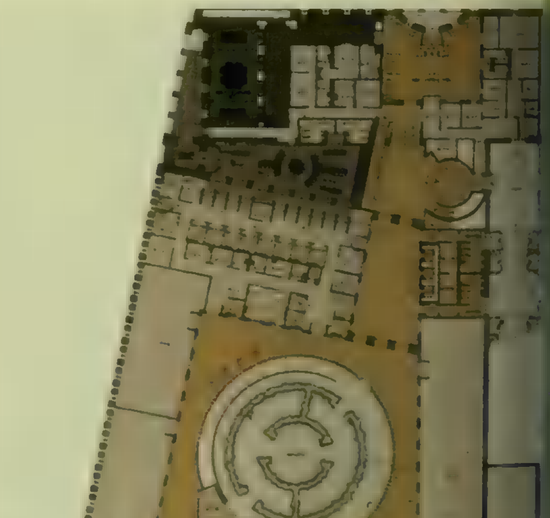
Robert Venturi likens this scheme to "a generic loft building," a simple, slablike building aligned to Ebertstrasse that anticipates changing program needs. He adds that the similarly flexible "tradition of the Italian palazzo," has served embassies well. Among the advantages of the scheme is that party walls, requiring inspectable gaps, are minimized. Office areas are arranged along a double-loaded corridor, like MRY/Gruen, but the corridor here is offset, placing larger departments on the outside (plan). A small, open circular courtyard at Pariser Platz splits visitors bound for the conference and exhibit areas (greeted by an inscription in stone) from escorted embassy guests (6). The blast-proof courtyard walls offer a glimpse of the garden beyond; an LED sign uses "a hype-20th century method," says Venturi, to express American culture through electronic posters and announcements. A tiered garden within the courtyard backs up to the guarded auto/delivery entrance (7). Consular users enter at the southwestern corner. The superficial similarity of all the schemes comes from local zoning that promotes stone elevations with punched windows. Here the rhythm is enriched by vertical red and blue stripes. *J.S.R.*

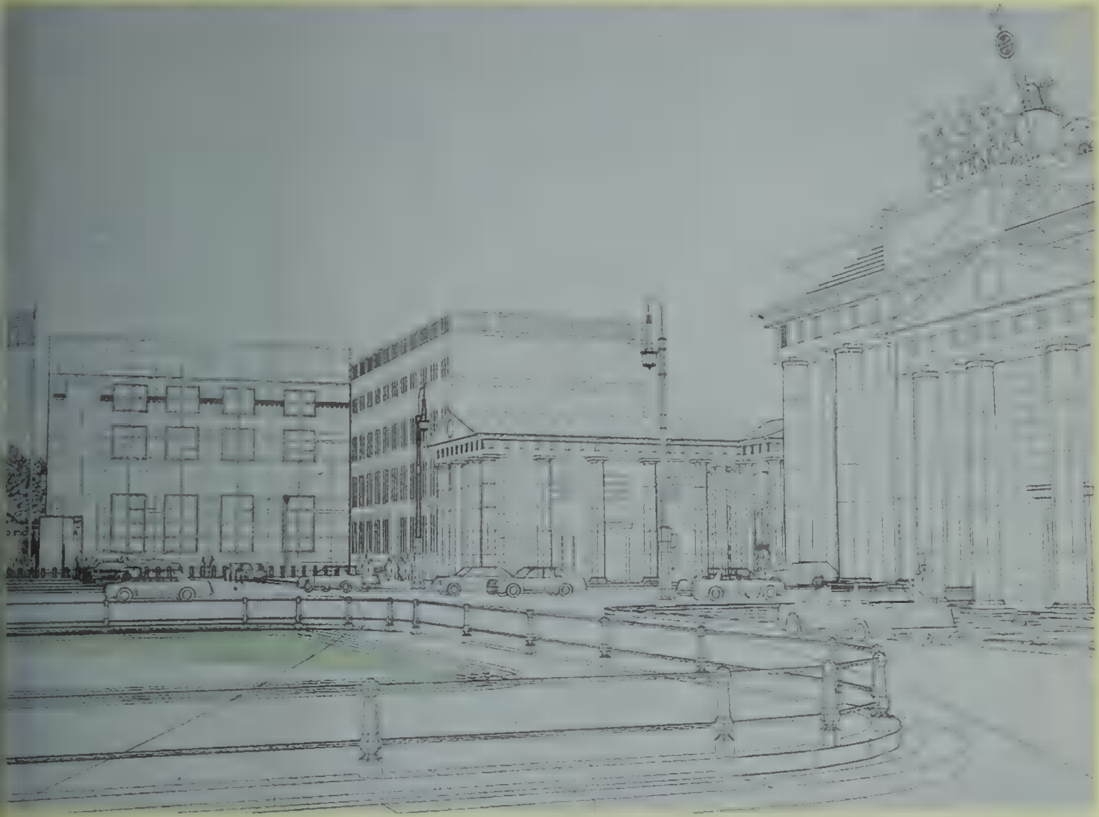


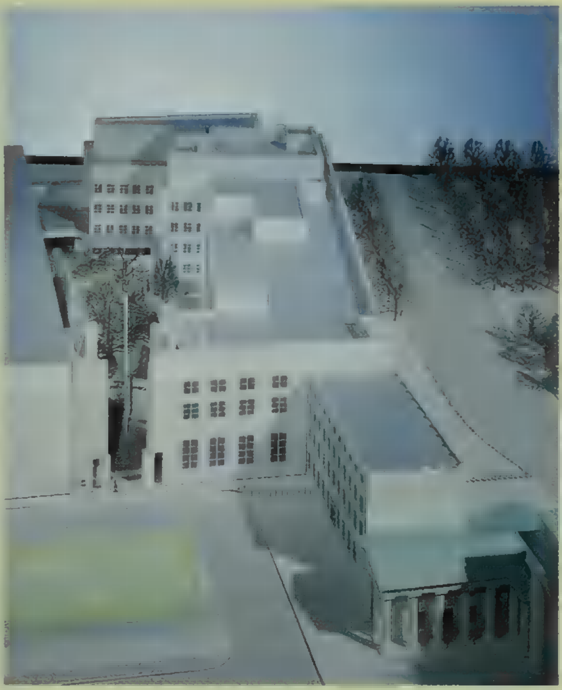
Kallmann McKinnell & Wood

Weidlinger Associates (structural and blast engineers); Flack & Kurtz (mechanical, electrical, plumbing engineers); Jaycor (security).

Arguably the most "palazzo-like" scheme, this proposal ranges program areas around a grand, central courtyard. The carefully proportioned Pariser Platz elevation (8) most literally evokes the palace that once stood on the site; its "closed" style is dignified without being overly fortresslike. The arched window is an emblem of a Karl Friedrich Schinkel building that once stood nearby. A small, apsidal porch leads to a double-height reception area. The public conference and exhibit areas face the Platz; other visitors are escorted through the security checkpoint to other areas in the embassy. Citizens and other users of consular services enter from Ebertstrasse through a wedge-shaped opening just south of the public areas (visible as a slot in the elevation—10). The office areas are arranged within two L-shaped slabs, one with its base aligned to the consular areas, the other with its base along Behrenstrasse (plan). Thus, outside light penetrates either from the street sides, where narrow, readily reinforced windows are set within recesses that define a larger-scale grid; from the courtyard side; or from a narrow garden on the site's east side. Service vehicles enter a guarded sally port on Behrenstrasse, and move to parking and service docks located beneath the larger courtyard. The squarish corridor areas around the glassed courtyard walls (9) allow plenty of areas for casual conversation or meetings among staff. *J.S.R.*







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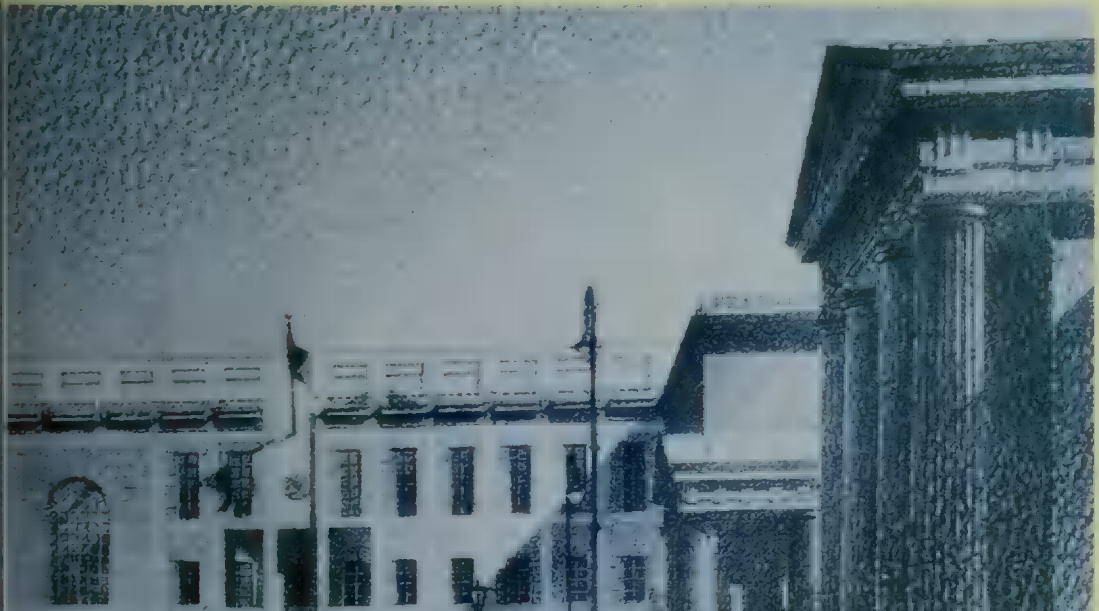

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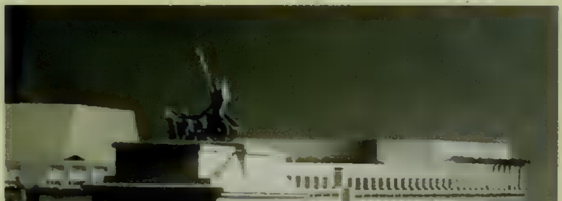


10

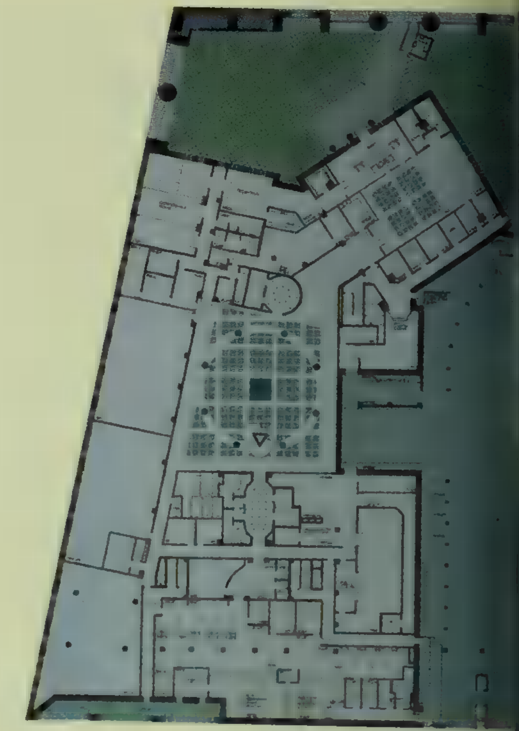
"That you are not allowed to have any vehicles parked under occupied spaces had a major impact on all the designs."
—Graham Wyatt, Robert A.M. Stern Architects

Kevin Roche John Dinkeloo and Associates

Thornton-Tomasetti (structural engineers); Flack & Kurtz (mechanical, electrical, plumbing engineers, environmental analysis); Applied Research Associates (blast engineering); Systech Group (security)

Unusual among the competitors, this scheme pulls the bulk of the building away from Pariser Platz, forming a landscaped forecourt behind a fenced and gated screen wall that wraps the Platz, and extends, via monumental openings, southward along Ebertstrasse. Among reasons for doing so, argues the architect, is to bounce light into the Platz, which will otherwise not ever see direct sun (12). Embassy and public users enter from the Platz under a canopy. Consular functions have a separate entrance on Behrenstrasse (bottom of plan). With parking and delivery areas located on the eastern side of the site, the design avoids party walls. (The roof is landscaped.)

The plan is divided into three masses. A small atrium punctuates the canted square, drawing light to the embassy-visitors' lobby. A canted, blast-resistant skylight, surmounting a circle of columns, draws light into the center of the complex. Setbacks to east and west (visible as a large square in the middle of the elevation—11) admit more light to upper floors. A stairway in the atrium (13) links across an elevator lobby to a narrow light shaft serving the southern third of the building. Window openings on exposed facades are gathered in pairs so that they appear to be larger, the elevation more open. *J.S.R.*

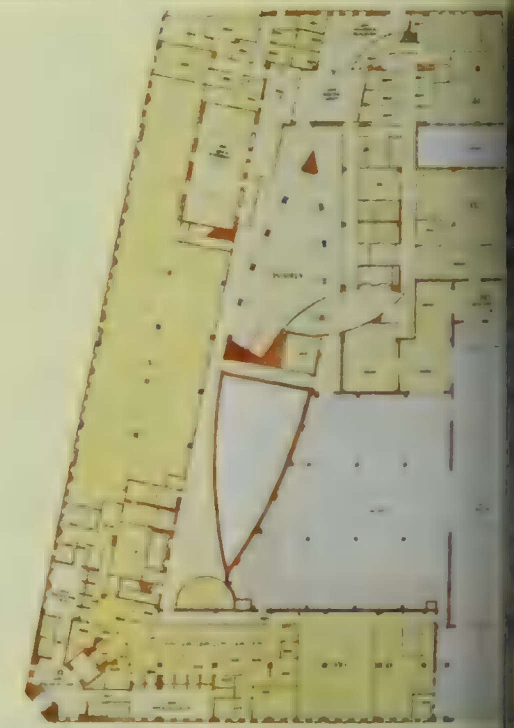


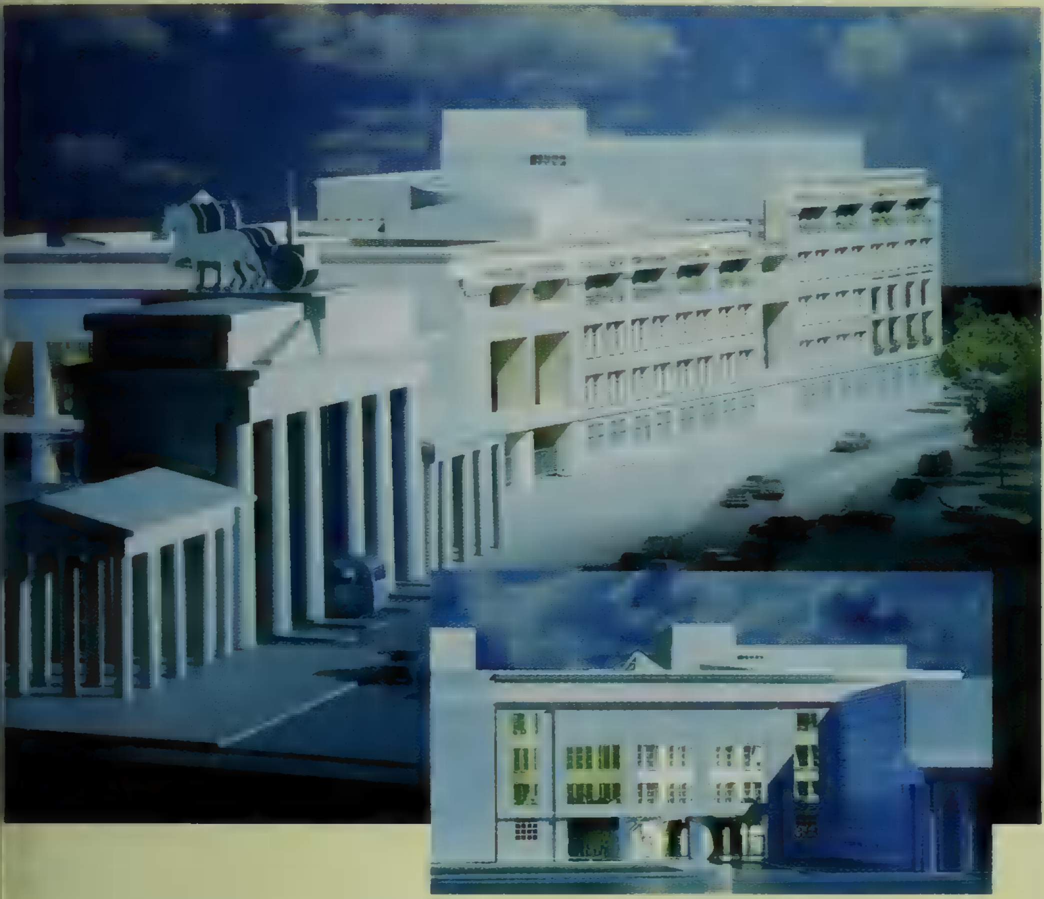
Robert A.M. Stern Architects in association with Leo A Daly

Flack & Kurtz (mechanical, electrical plumbing engineering); Jaycor (security and blast consultants)

The dynamic interplay introduced by an ovoid glass atrium is not hinted at by this project's austere Neoclassical facade. The symmetrically placed Pariser Platz door (15) leads to a reception area that splits public from staff and invited visitors. Public areas borrow light from the atrium, the floor of which is one level higher, screening it from public view. Office areas wrap the site, accessed from a single-loaded corridor that draws light from the atrium. An intersecting [illegible] carries glazed stairs, permitting public events to take place in the landscaped, glass-roofed atrium (14) without [illegible] from the public activities. The atrium faces a garden that slopes south to take maximum advantage of low winter light. Some competitors avoided glass-roofed atrium spaces due to fear that blast criteria would not be met. The narrowness of the space, however, made it easy to span with members that would not appear excessively heavy. The busy consular functions are entered from the southwestern corner of the site.

Large squares are scribed in the otherwise nearly flush facade to group the smallish windows, making a facade-scale gesture. A recessed balcony also relieves the long Ebertstrasse elevation, but it is detailed to avoid a direct line of sight from the Tiergarte to persons on the balcony. Like other schemes, the sally port leads to parking and service areas under the garden. *J.S.R.*





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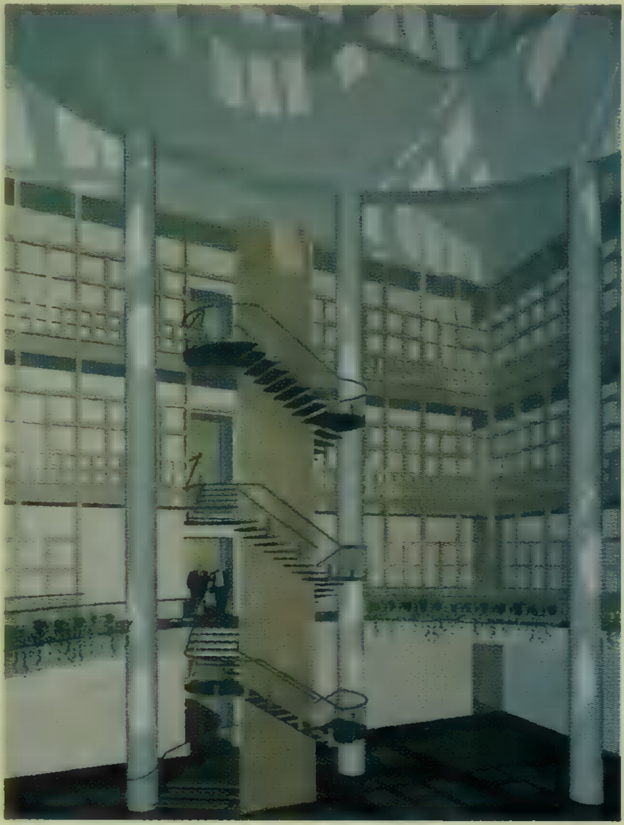

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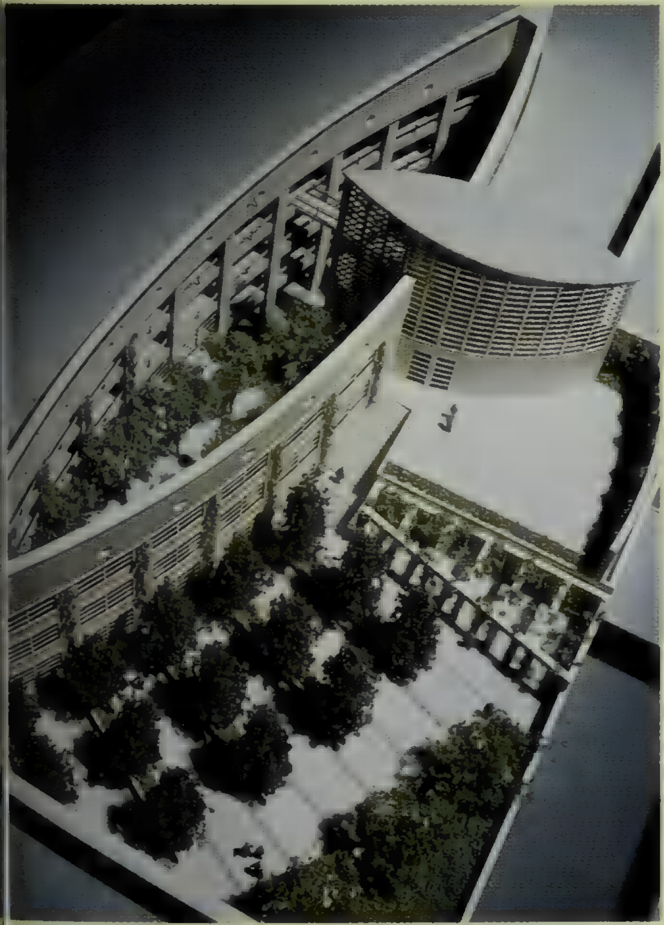

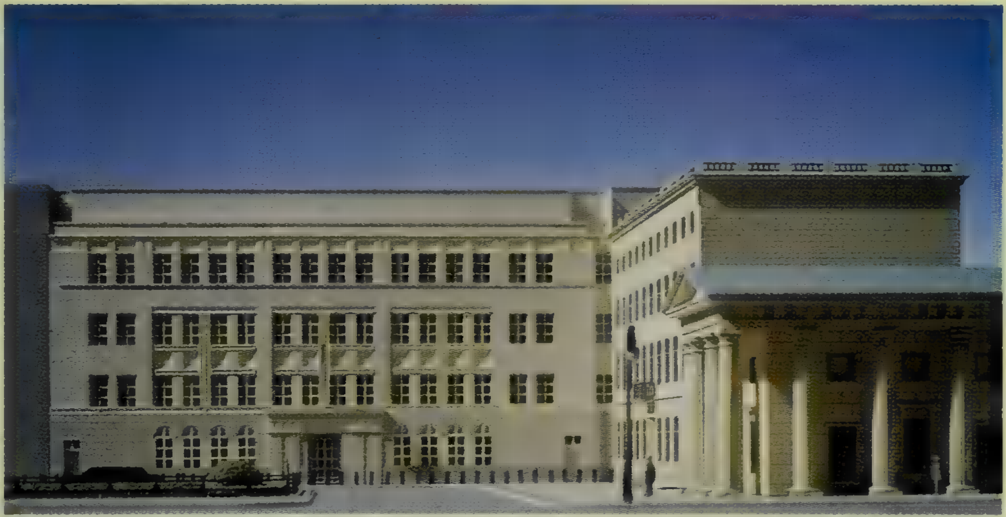

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Coping With Threats From Bombs to Break-Ins

By Elena Marcheso Moreno

First the World Trade Center, then the 1995 bombing of Oklahoma City's federal Murrah Federal Building—which killed 168 people. The Unabomber still lurks somewhere out there. Should such rare but devastating acts drive the design of buildings? However you answer, no building-security issue is easy. Terrorists have gassed subway passengers in Japan, but exploded bombs in Paris' Metro. And today's threat may not be tomorrow's. Take the Murrah building. "It was supposed to be bomb resistant," acknowledged James Loftis, one of its architects, at a conference on building security held last November in Washington, sponsored by AIA and The McGraw-Hill Companies [RECORD's parent]. "The pipe bomb was the weapon of choice in the early 1970's—it was the Vietnam era."

Still, the chances of large-scale terrorist attack remain low. Much more likely are everyday criminal acts. Until recently, architects have been wary of what they perceived as the "bunker mentality" of security consultants. Security consultants say they are stymied by architects' resistance to integrating security considerations early enough.

Crime-resistant environments

Many of the same measures employed to make a building safe from criminals will help secure it from terrorist attacks, according to industry experts. More and more, architects and owners are turning to security consultants and professional associations to enlighten them about crime prevention through environmental design (CPTED).

Based on defensible-space concepts, CPTED principles are used to analyze the physical design of the project to avoid or reduce crime opportunities. The strategy is threefold:

- Natural access control to limit entry (and in some instances egress) and to establish a perception of risk to potential offenders;
- Natural surveillance to observe intruders;
- Territorial reinforcement through easily identified boundaries.

When the built environment itself succeeds in deterring crime, the owner needs to invest less in detection, control, and intervention systems and staff. Poor security planning not only fails to limit crime but can even be responsible for beckoning it, increasing the inherent risk.

Access-control techniques range from the 100-ft building setbacks and high walls of some recent embassies [RECORD, August 1992, pages 36-39] to concrete bollards that prevent a disgruntled employee from ramming a vehicle into a lobby. (It's happened). Parking structures can keep out unwanted users through key-card access (and key cards can also identify users); key cards for elevators in the soon-to-open American Association for the Advancement of Science headquarters in Washington not only open elevators, they direct users to a preset floor. Since the World Trade Center bombin took place in a garage under a building, owners have reassessed auto access. For fea of bombs, parking was discontinued in the garage that reaches across the length of the National Air and Space Museum.

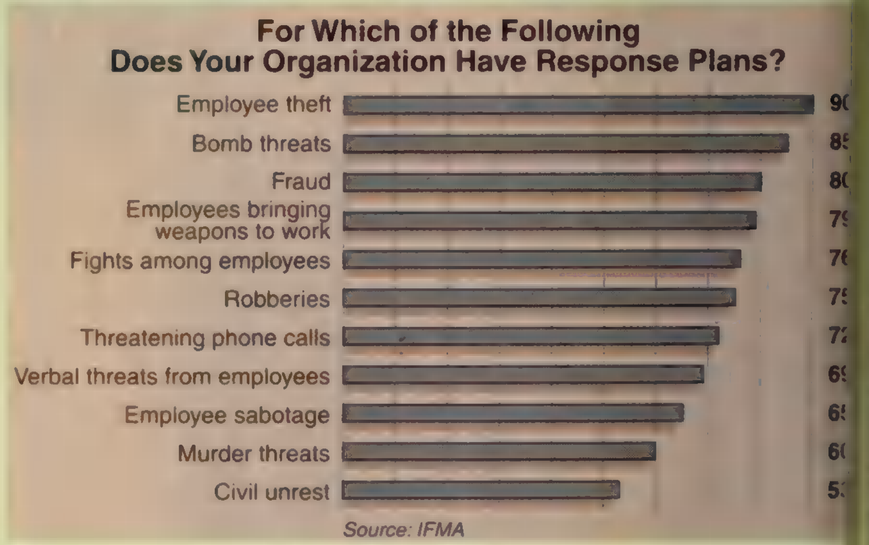
Negotiating threats and risk

CPTED philosophy requires realistic threat analysis because fitting security measures into an already-designed or built building ca add excessive costs and drive fortress-like solutions. "When I can give my input about threats, vulnerability, and assets to protect the programming stage," says architect and criminologist Randall Atlas, of Atlas Safety Security Design, Miami, "it becomes design guidelines." If the architect takes advantage of security planning resources early in the project, Atlas says he can keep control of costs. Image is not the only thing at odds with security. Accessibility, energy conserva tion, and code requirements for life safety and fire can also conflict with building-secur ty needs.

Local authorities and code officials may undermine the best-laid security plans if th perceive a threat to life safety in an emergency. The architect and security consultant went to officials early for a new building com pleted for Canada Life Insurance Company. "To avoid problems with the fire departmen and local inspection authority, potentially problematic design elements were reviewed before the overall design was completed,"

Elena Marcheso Moreno, based in McLean, Va., writes on architecture and architectural technology.

> *In security design, there's no base line, no one-size-fits-all approach. "Architects ask me to give them a place to start, but there's none. We start from zero each time."*
>
> *Nick Hatzis, Intercon Security*



Source: IFMA

ys Nick Hatzis, senior consultant with ıtercon Security, Chicago. "We showed em how people would be moved in and out, here fire doors were to be located, what the fety backups were." This situation points to e key role architects can play: achieving nsensus on the nature of threats and the easures that will be taken to prevent or al with them.

metimes, for example, owners' decisions n seem draconian. At the North Terminal, ıder construction at Washington's National rport to designs of Cesar Pelli & Associ- es, "The client required that we examine ıat they classified as crisis-level security rategies," explains Phil Bernstein, Pelli's oject manager. "We looked at restricting rport usage to passengers and employees ly, and conducting initial screening of these rsons at security checkpoints and x-ray ations located at all building entrances." ough such a restrictive policy was not cepted, the airport authority nevertheless structed the designers to include cable ases for extra power at these locations, ıst in case."

ide security measures or flaunt them?

a federal courthouse, says Bernstein, "the oblem becomes much more complicated." ffering levels of security must be accom- odated for the building's three circulation tterns—for judges, staff and public, and isoners. At the same time, the designers ust resolve life-safety issues for all three er groups, convey the dignity of the judiciary, and make the project feel part of the community.

Flaunting security where risk is perceived as high can be effective (photo bottom). Other owners choose to obscure security measures for fear that perpetrators can overcome visible measures.

Designers and clients must also consider unintended consequences, observes Stuart Knoop, of Oudens + Knoop Architects, Chevy Chase, Md. His firm has a special expertise in embassies and other high-security buildings. "Once you erect barriers or other controls on a building, it clearly becomes hardened—more risky for a criminal to attack. That can cause the attacker to go to an easier target."

Building occupants can subvert security measures, says Knoop. Where secure areas are divided by floors, "fire stairs shouldn't be used as convenience stairs to move from level to level," he explains, "because that allows unrestricted movement through a building."

The human factor

Understanding the risks involved, agreed to by all parties, is a starting point for design, says Intercon's Hatzis. Then his firm looks at the requirements of the user and what assets need to be protected. "There are many options," says Wilbur Rykert, director of the National Crime Prevention Institute, Louisville, Ky. "The building owner or operator just needs to be educated, and there are no standard solutions, because each building is physically unique."

One of the toughest issues is use of guards. Mark Shoemaker, design-team leader for Cesar Pelli's office at National, acknowledges that guards are a "design factor" if they need podiums, desks, or storage facilities. More importantly, "The presence of guards is a management issue." It's not just salaries. Rykert explains, "Guards get bored, they fall asleep, they take vacations. A closed circuit television (CCTV) is much better. Other owners tell me they can't have someone watch a TV all the time for many of the same reasons." Technology can overcome some of these human frailties, such as periodic, random computer monitoring or devices that beep audibly when someone enters a space.

Though security technology is a necessary evil, security equipment need no longer evoke "big brother is watching" nor the county jail. Closed circuit TV cameras are now as small as 4 to 5 in.; access-card readers can be installed behind drywall, wood, or glass.

To reduce the need for guards and technology, a CPTED strategy will take advantage of as many architectural elements as possible. Appropriate lighting, landscaping, and surveillance opportunities are particularly important on college campuses and in parking structures that people may use alone or late at night. Surprisingly, few parking structures meet current lighting criteria

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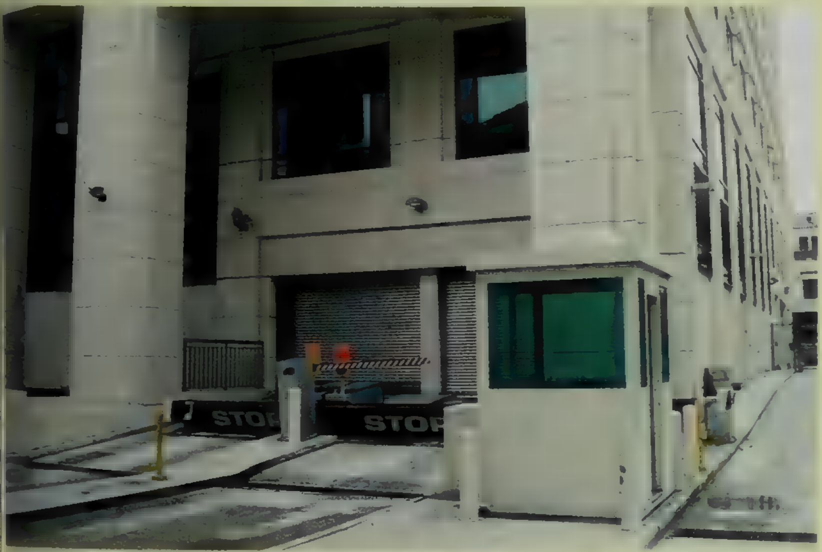

ourtesy Atlas Safety & Security Design

While terrorist acts grab headlines, the reality of much building security is crime—even that which comes from within an organization (chart opposite). A judges' entrance at a courthouse integrates such elements as retractable bollards, a guard shack, and cameras (left).

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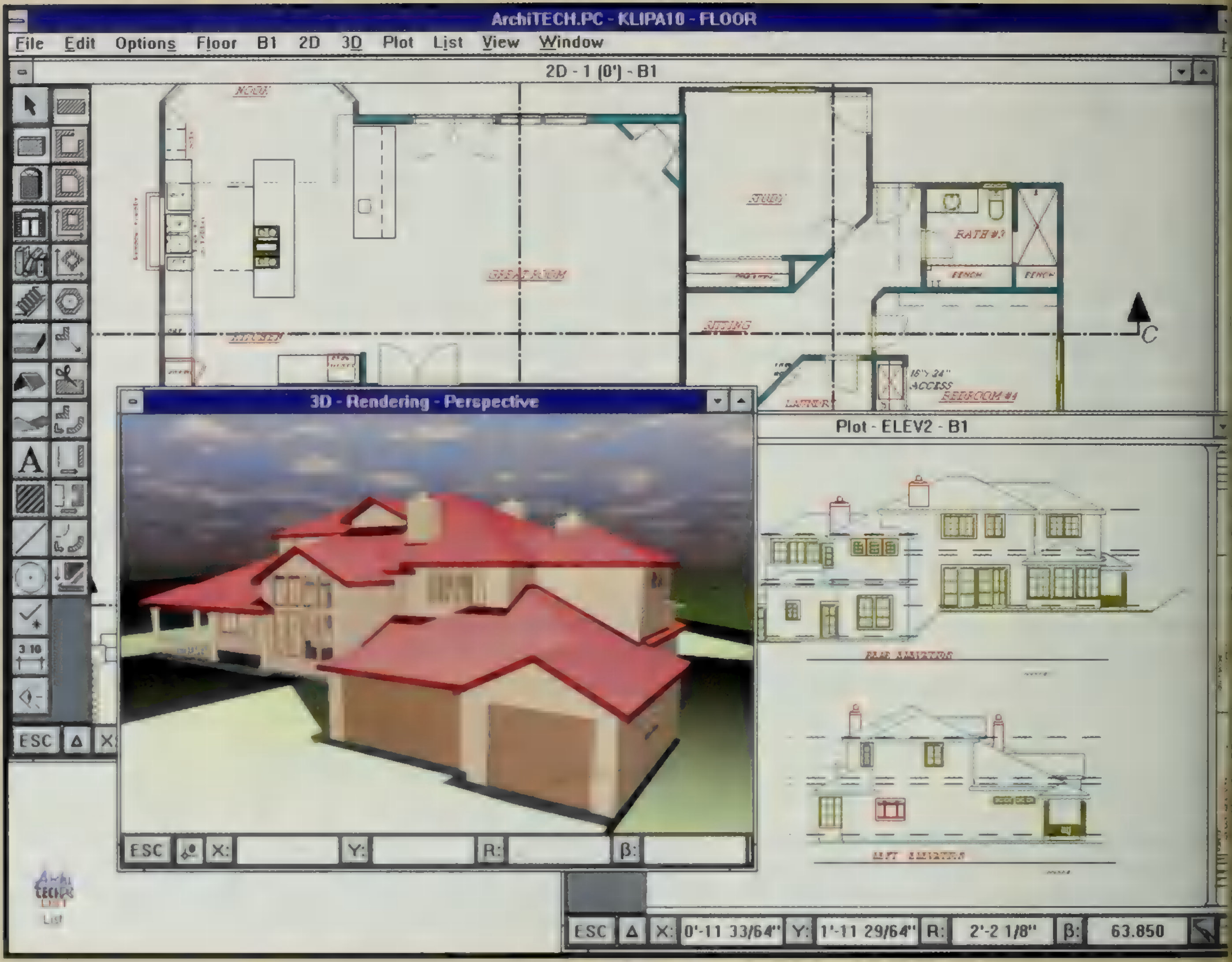
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llplan from ermany

This month, we look at Germany's leading CAD package, now available in North America, and at two easy-to-use packages for keeping track of schedules and prospects.

Steven S. Ross

we began to pull together our review of metschek Systems' Allplan CAD software e last year, we got a well-written press ease from Nemetschek, describing how 'plan had won a CAD "shootout" at the iversity of Illinois-Chicago last spring terms of modeling, rendering, and anition functionality organized into one ject under a single-user interface."

were particularly intrigued because most h tests are conducted by vendors themves rather than independent groups, and ause the test was handled by Kristine K. llon, FAIA. She's a consultant, an adjunct fessor at the University of Illinois-icago, and a contributor to this magazine. e's also a no-nonsense professional when omes to CAD and CAD training. If she s any attachment, it is to IBM's A&ES D software—she helped develop it at M. But A&ES wasn't in the shootout.

e press release was accompanied by the l test report. Ethical companies and ical testers do that sort of thing. The full ort showed that the shootout wasn't a an win. Allplan was run on a high-wered HP Unix computer. The AutoCAD sion it was competing against was 12, not The MicroStation version was 5.0, before new "PowerDraft" interface was released. ey were running on less powerful Pen-ms. Datacad, the other package in the test, ns only in DOS—and costs less than $150.

AutoCAD add-on, AutoArchitect, was able to run on Windows NT (due to a y-protection problem), so AutoCAD was n in Windows 3.11. On the other hand, the dents had more experience with AutoCAD n anything else—the university had been ing Release 11—but has now decided to itch over to Allplan as a primary CAD l for its students.

at does this tell you? First, that Allplan d its own in the shootout test, and is worth ook. Second, shootouts are inherently fair, because of equipment differences and ause they must always compare the west version of one package with earlier sions of something else—as vendors don't ease new software simultaneously.—SSR

Allplan 11.1

Vendor: North American office, Nemetschek Systems, Inc., 100 Shoreline Highway, Building B, Suite 125, Mill Valley, CA 94941. 415/289-3750, 800/479-0735, fax 415/289-1386. $4,995.

Equipment required: Computers capable of running HP Unix, Windows NT (for Intel CPUs only), Windows 95. Windows computers require at least 16MB of RAM, 32MB recommended by vendor. A copy-protection lock fits into the parallel port.

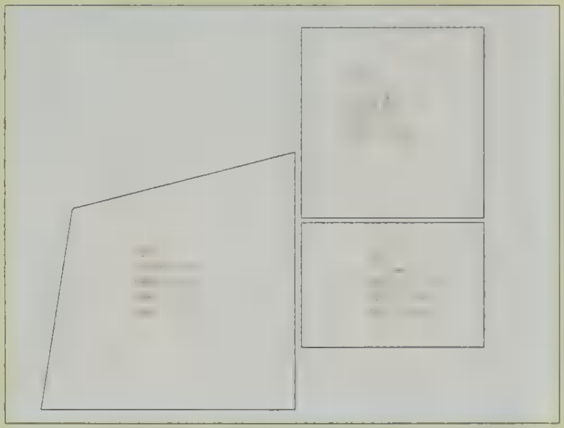
Few American architects have heard of Nemetschek Systems, but it is one of the world's largest CAD vendors—with $100 million in annual sales. The sales come not only from the base software, but also from various add-on modules. For the American market, everything is bundled together in one easily-installed (from CD ROM) package.

Allplan is especially strong on the structural side (Professor George Nemetschek, who started the firm as an engineering consultancy in 1963, is a structural engineer). It first appeared in 1984, and is the top-selling CAD package in Germany, the company says.

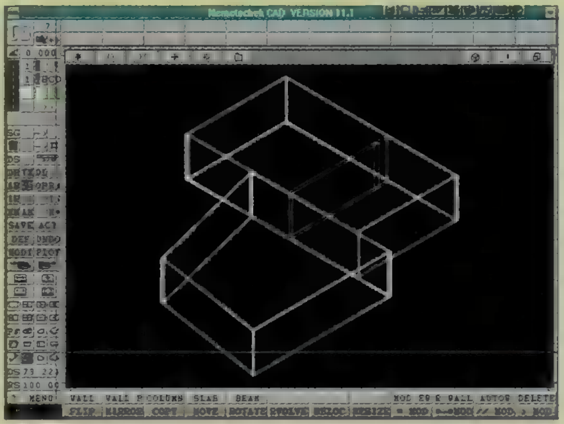
We reviewed version 10.3 on a Windows NT machine in some detail, and also looked at version 11.1. As we go to press, a Windows 95 version was due to be released, along with new documentation.

As is typical of "European-style" CAD packages such as GDS and ArchiCAD, just about everything comes in the package, usually with no add-ons necessary. You get 3-D architectural CAD—including drafting niceties that are fast becoming standard, such as stair and roof layouts—as well as 2-D or 3-D presentation, solids modeling, photo-realistic rendering (including time-of-day shadows) with ray tracing, image processing, animation, and bill of materials (there's an internal database, and easy export to Microsoft Excel spreadsheets).

You can work entirely in 2-D or in 3-D—but the objects you place are always 3-D. The menu and command structure are, well, different—most of the commands are in "horizontal" menu buttons, as well as in more



You can start a project by blocking out some rooms, then shuffle them around.



Once you get the rooms diagrammed, you can use your initial doodles to extrude a 3-D image from plan.

conventional palettes along the screen margins. There are few Windows/Macintosh-style pull-down menus.

Nemetschek Systems has joined the AEC Industry Alliance for Interoperability, pledging to help develop and use standards for data in "intelligent objects." Right now, however, files produced by Allplan require translation to be compatible with AutoCAD and MicroStation. A good DXF-translator comes with Allplan.

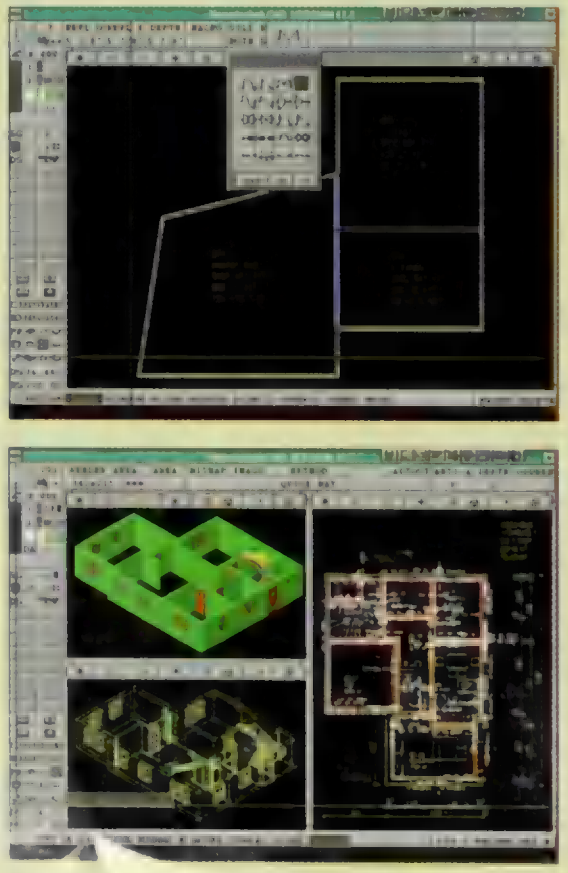
It's characteristic of packages with a Unix heritage that each layer in your project drawing is a different file. This can work to your advantage, making DXF translations easier.

If you are already wedded to AutoCAD or MicroStation, Allplan may not be for you—its interface is a bit different, and there are

Two "Personal Information Managers"

translation issues. We found it safer, for instance, to export a file from Allplan through DXF to MicroStation, than to go the other way. But if your practice has few seats, and you are outgrowing simple 2-D CAD packages, Allplan is worth a look. It is easy to learn, powerful, and command-filled.

Manuals: Complete, mixing tutorial and reference elements for each command. "American-style" manuals are promised for this spring.
Ease of use: There's no question that European-style integration works—some of the icons look strange, but all the controls for all the functions are seamless.
Error-trapping: When you sweep a surface element along a path, you get a hollow surface, but it looks like solid until you try to perform boolean operations on it. It is tough to lose data; the recovery and file restoration system is robust.
160 *on Reader Service Card*



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Ascend 5.0

Vendor: Franklin Quest Co., 2200 West Parkway Blvd., Salt Lake City, UT 84119 800/877-1814, fax 801/978-1133; CompuServe: Go Franklin; AOL: Franklin. $99 street price.
Equipment required: Any Windows-capable computer. An earlier version runs on Macintosh Plus or higher; a Macintosh version with Windows-product features is due later this year.

Manuals: Two paperbacks—one a quick-start, the other a comprehensive user guide. Excellent on-line, live-action tutorial.
Ease of use: The metaphor—a paper-page daybook planner—is straightforward.
Error-trapping: There's a nice set of backup utilities.
161 *on Reader Service Card*

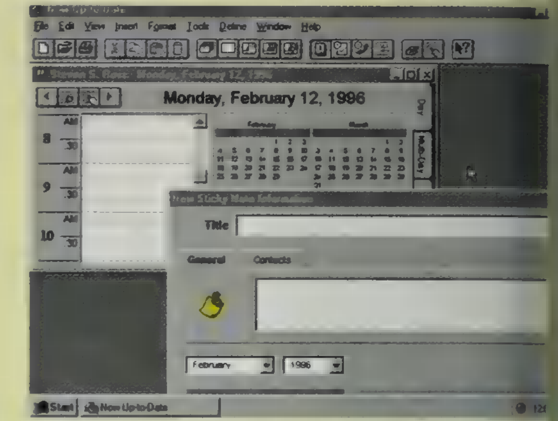
Now Up-to-Date 1.0

Vendor: Now Software, Inc., 921 S.W. Washington Street, Suite 500, Portland, OR 97205, 800/237-2078, fax 503/274-0670, fax document retrieval 503/274-6370, ext. 3488. $99.95 for single-user version. Network versions are Macintosh-only (Windows versions coming); $475 for five-user license.
Equipment required: Any Windows-capable computer. Macintosh version also available.

Manuals: One clearly-written paperback reference.
Ease of use: Everything is done through fill-in-the-blank windows, not in the screen display itself (except for the address list, which can be filled in directly).
Error-trapping: Good. Once an entry is made, it can be moved from task to appointment list, and more.
162 *on Reader Service Card*

What happens when your paper day-planner becomes computerized? You get a PIM—a Personal Information Manager. Only lately, however, have PIM software packages gotten cheap and good enough to be worth considering in a professional practice. Here are two good examples.

Ascend is a direct translation of the Franklin Day Planner. You get a nice contact information system that includes records of calls and



Preparing a "sticky note" to add to anoth document in Up-to-Date. It will appear w the other document is accessed

schedules of follow-up appointments, an address and phone book, e-mail (if you are running cc:Mail or Microsoft Mail), group scheduling, appointments, and task list.

Up-to-Date adds a search feature to a sligh less robust appointment manager that worl even when the full program is not launched It also has a form-letter and label generato and can add "sticky notes" to other files, as reminders to do specific tasks.

Ascend and Up-to-Date work with Franklir Daily Planner filler pages (and other filler brands, for that matter), if you want to prir out schedules. Up-to-Date has a cleaner interface, not tied too closely to any one planner layout. But it is less intuitive, in th you cannot easily add data to on-screen cal- dars; instead, you edit fill-in-the-blank windows.

Both packages are remarkably powerful fc the price; if your computers are networkec for instance, they can coordinate appointm schedules on all machines. (Up-to-Date als comes in a stand-alone version.) If all you need are Ascend's features, use it—there's better tutorial, more intuitive interface, an better file utilities. But Up-to-Date has mo features.

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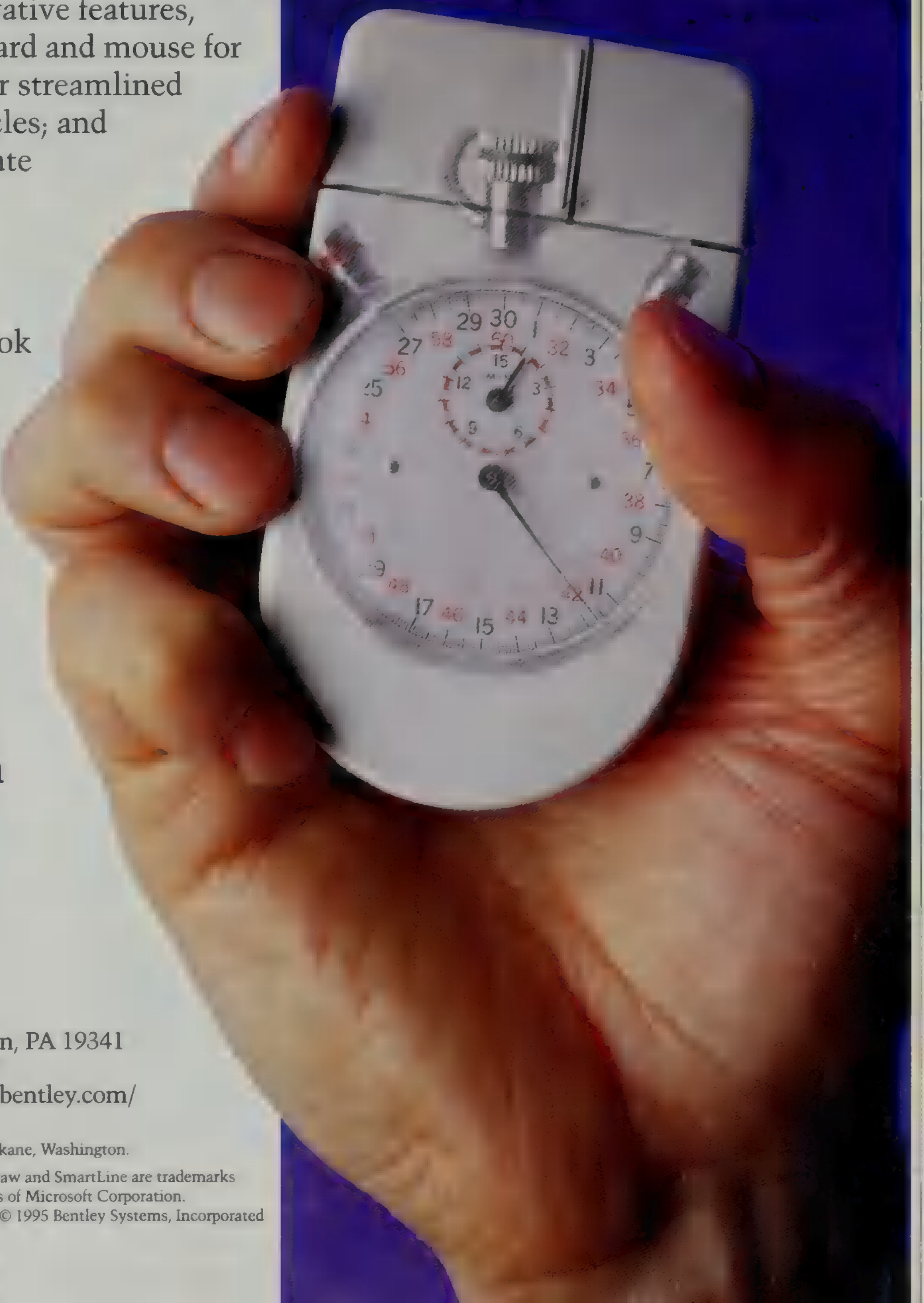

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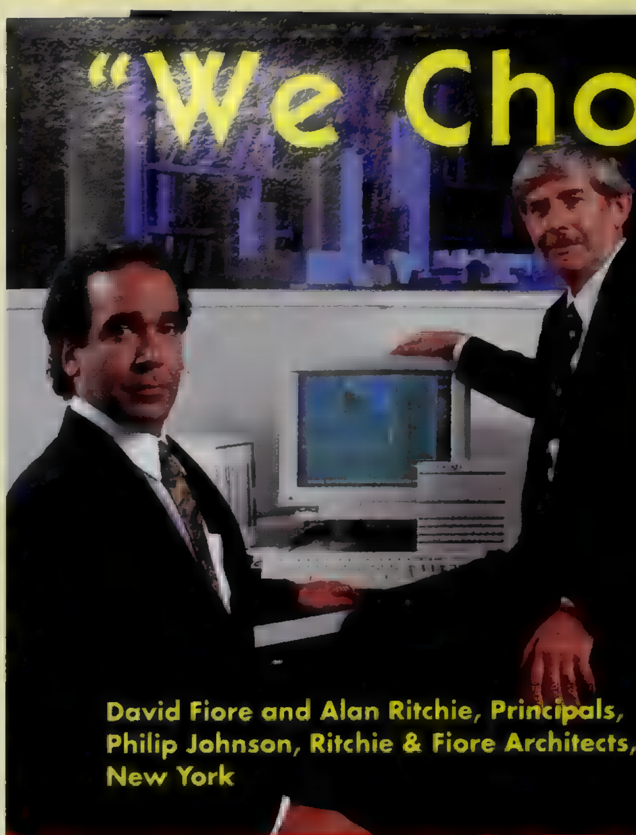

David Fiore and Alan Ritchie, Principals, Philip Johnson, Ritchie & Fiore Architects, New York

GREATER SHANGHAI COMPLEX COMPETITION
Philip Johnson, Ritchie & Fiore Architects
Project Team: Alan Ritchie, David Fiore
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So much of our work is done on computer these days, that the choice of CAD software becomes critical to the overall efficiency of the office. We chose ArchiCAD so that the entire office can standardize under one system. Since our approach is to have the senior staff do as much of the 'hands on' work as possible, an integrated software allows them to spend more time on project management and less time on system management.

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The Shanghai Complex Competition was definitely a situation where a small project team was able to produce a large quantity of high quality presentation drawings in a matter of days. Any other method of approaching the project would certainly have taken several more people, and we would have had to scale back our presentation.

David Fiore, Principal
Philip Johnson, Ritchie & Fiore Architects,
New York

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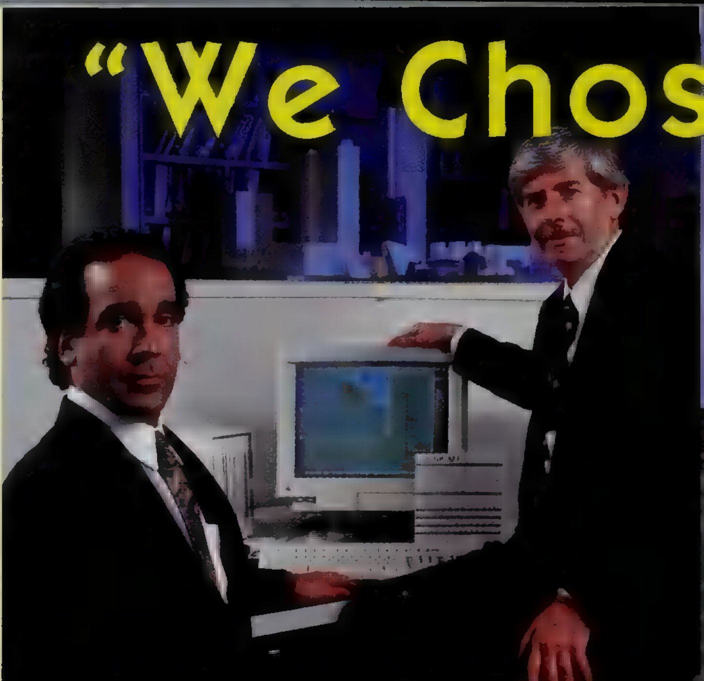

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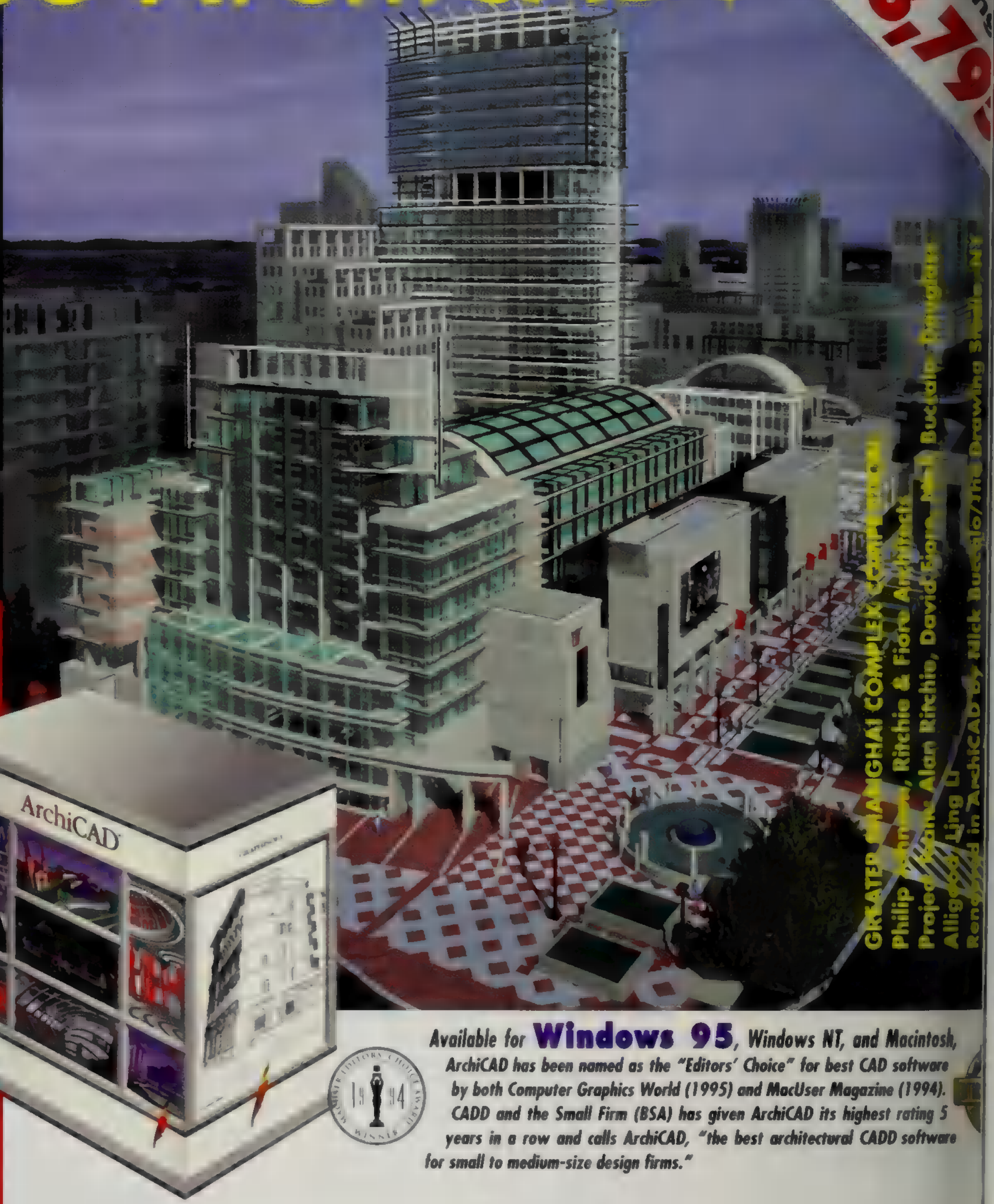

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Philip Johnson, Ritchie & Fiore Architects
Project Team: Alan Ritchie, David Fiore, Nick Buccalo, Douglas Alligood, Ling Li
Rendered in ArchiCAD by Nick Buccalo/The Drawing Studio, NY

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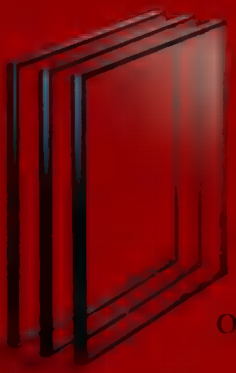

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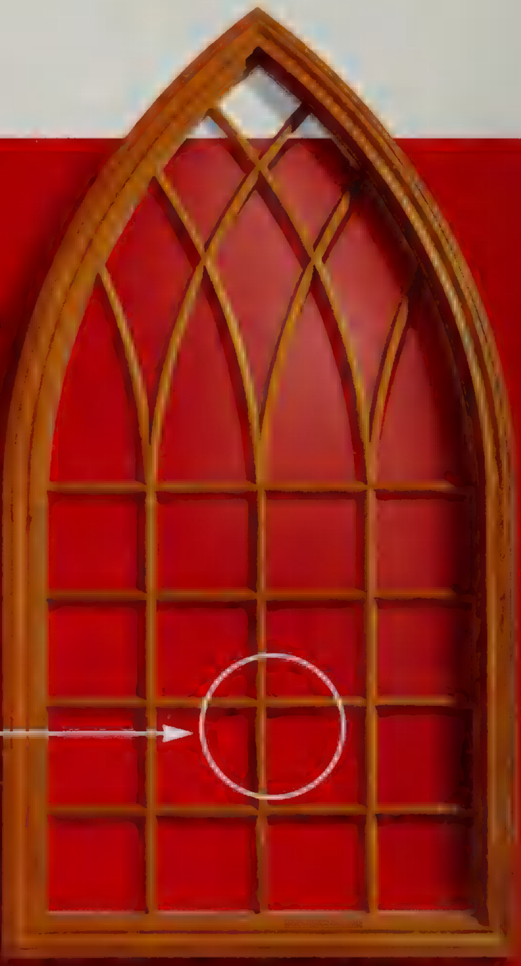

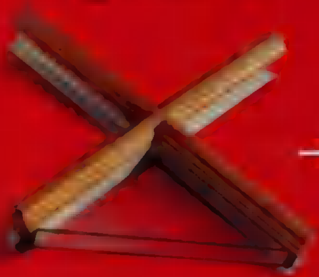

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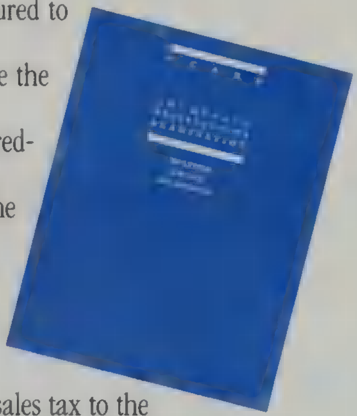

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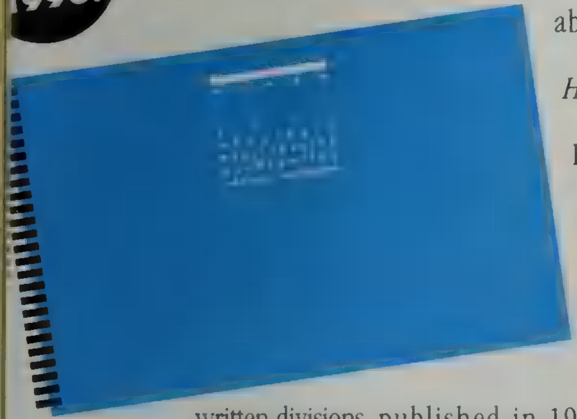

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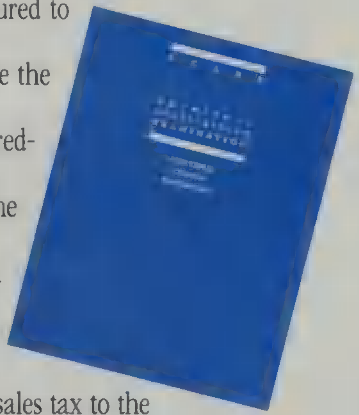

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Ceramic Tile: Expo Preview

Reviewing new ceramics in advance of this year's International Tile Expo (in Miami, April 24-27) reveals design trends. Most prominent, at least in the more commercial segment of the market, is the growing range of porcelain stoneware. After years dedicated to making porcelain tiles ever smoother and more precisely edged, the Italians upped the bar again, with true porcelain tiles that really mimic natural limestone and slate, down to the surface irregularities and soft edges of cleft materials. Tiles give an air of antiquity, almost a patina from the wear of years of traffic, to a stain-resistant floor that was installed yesterday. These stone-like materials get their character from a blend of clays, which produces a tile body of subtle effect. Another big trend is decorative accent tiles, borders, and trims with a unique, handcrafted appearance—there's more of them.

1. From Ann Sacks, brand new Terra Cotta tile that might have come from a 14th-century Tuscan farmhouse. Shown: Antique Parafeuille. *Circle 154*

2. Architectural trims from Questech Meta are made of a homogeneous combination of real metal, polymers, and ceramics that resembles solid-metal at one-fifth the weig Now offered in a range of economical standard patterns, priced comparable to cerami tile and trim, decorative elements come in 3/4-, 1 1/2-, and 3-in. widths and 12- and 24- lengths. Surface may be clear coated, or lef to patinate. *Circle 155*

3. A durably glazed tile with rusticated texture, Saxa from Emilceramica captures

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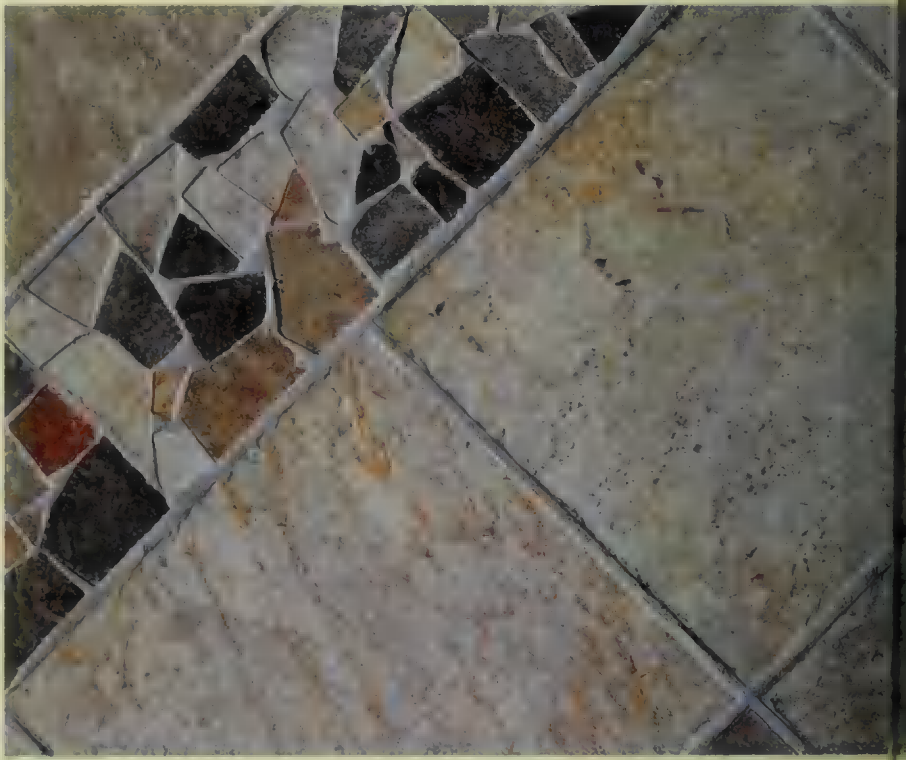
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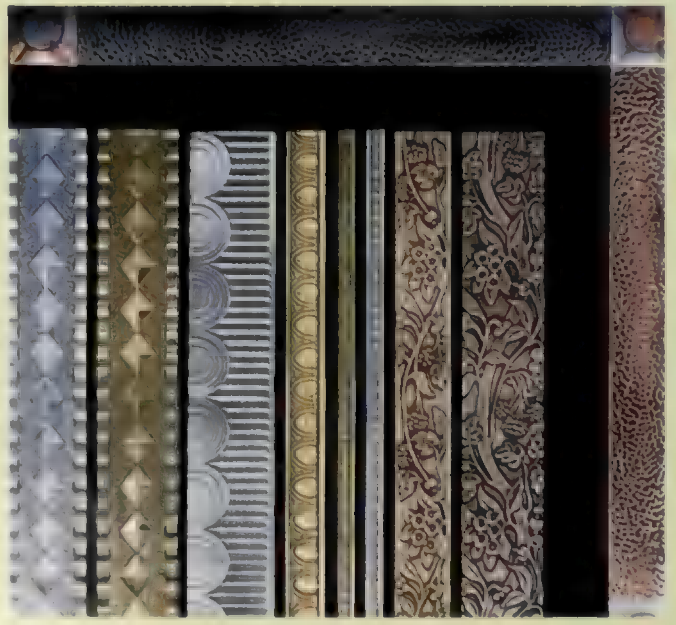

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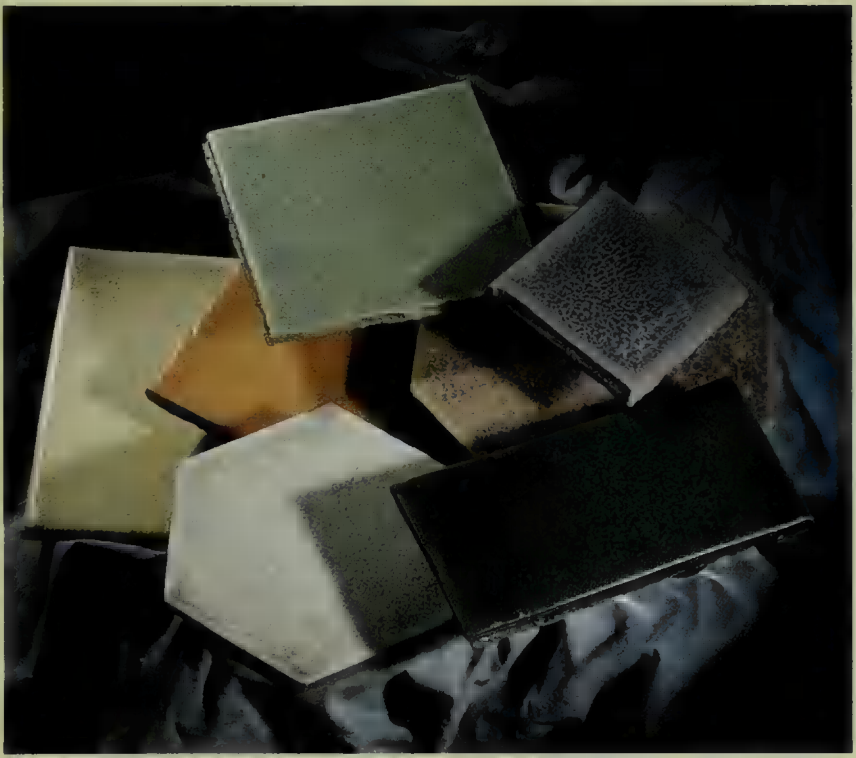
. This true porcelain from ItalGraniti is a ad ringer for cross-cut Travertine—thout any of its tendency to absorb water d stain. Frost-proof and scratch-resistant. *rcle 157*
. Tactile and colorful accents by Cerdomus, nuinely hand made. *Circle 158*
. American Marazzi's Basilica tile has the fect of old marble in a three-rated product itable for moderate traffic. The mosaic listelli have been colored to blend with any Basilica floor. *Circle 159*
7. This hyper-colored detail from a subway mural shows off the dramatic effects created by Bisazza's glass mosaic. *Circle 160*
8. New pieces from Epro's Alexandria Collection have the soft variegated colors of Colonial-era handcrafted tile. *Circle 156*
9. Daltile's Limestone floor is wear-rated for heavy commercial traffic; its minimal water absorption suits it for applications requiring good stain resistance. *Circle 162*

7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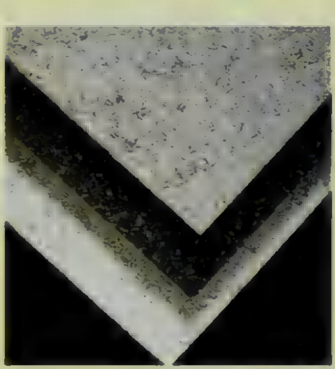
163. Concealed-rod fire doors
Weyerhaeuser's new 90-minute wood door achieves its fire rating without requiring metal edges at the meeting stiles. Tested with a concealed-rod exit device from Yale, the fire-door design permits a closer match with other architectural doors in an office or commercial setting. Locking options meet ADA requirements. 800/869-3667. Weyerhaeuser, Door Div., Marshfield, Wis.

164. Fiberglass entry
Made with molded-fiberglass faces over an insulating urethane-foam core, the solid-feeling Fiber-Classic door replicates the look of wood but won't warp or split. The material permits a two-tone finish: paint on the exterior, as shown, and a wood-toned stain on the interior. Options include 8-ft heights, a 20-min. fire door, and patio units. 800/843-7628. Therma-Tru, Maumee, Ohio.

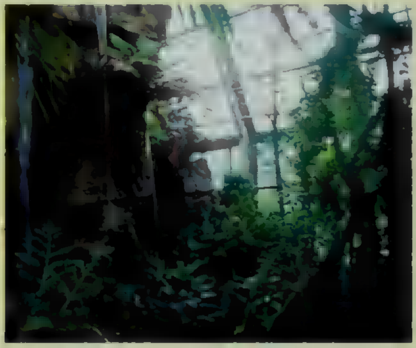
165. Stone-look porcelain
Sampleboards displaying new stone-look Caesar porcelain ceramics are offered to architects and other design professionals. Pictured: Dolomite, a granite esthetic available in six light and dark colors. Made in 12-in. modular units for floors and walls, Caesar tiles can be ordered matte or polished, have low water absorption, and can meet ADA specs. 770/442-5500. Buchtal, Roswell, Ga.

166. Detention-grade cooler
Model HWBFA8PR is one of a new line of vandal- and impact-resistant electric water coolers designed specifically for penal systems. Cabinets are stainless steel; panels are held in place with pilfer-proof screws. Ventilation louvers are screened to prevent hiding contraband. 510/525-5801. Haws Drinking Faucet Co., Berkeley, Calif.

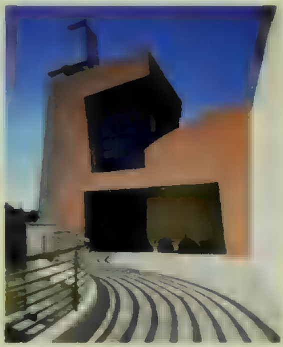
167. Decorative cedar shingle
A sample box displays full-scale de
rative red-cedar shingles with
distinctive edge profiles. These and
other shingle and shake products
meet new ICBO Evaluation Servic
requirements, certifying code-com
ant quality standards; fire-retarda
and preservative-treated shakes a
shingles are also available. Kit free
architects and specifiers. 800/663-8707. Clarke Group, Sumas, Wash.



168. Abuse-resist sound contr
A colorful finish option now availab
for the Image line of Tectum acous
cal panels, Chroma-Spec seamless
coating can be applied in virtually
any color without compromising th
sound-control and abuse-resistant
qualities of the classic panels.
614/345-9691. Tectum, Inc., Newar
Ohio.



169. Hyper-realistic rock
A geologically-correct sandstone c
face is shown here in a Kew Garde
Evolution House exhibit recreatin
Silurian, Devonian and Jurassic-er
landscapes. Made of glass-reinforc
concrete using CAD modeling and
direct-impression molds, artificial
rocks contribute to the "retained
image" produced by landscapes an
educational exhibits. 818/334-8211.
diGiacomo, Inc., Azusa, Calif.



170. Rainscreen-technique El
David Hester of S.F.A. Architects
used a new Dryvit product, the In
ty PE System, on the Mayerson
Academy, Cincinnati (left). Said to
neutralize the air-pressure differences between exterior and interio
that help moisture penetration, th
cladding has integral drainage cha
nels and is installed over a waterti
substrate. 800/556-7752. Dryvit
Systems, Inc., W. Warwick, R.I. ■

Short Takes

New owner for Knoll. Warburg, Pincus Ventures, L.P. has bought The Knoll Group from Westinghouse for $565 million. A grand name in design since its founding in 1938, the office furnishing manufacturer expects record-breaking profits for fiscal 1995.

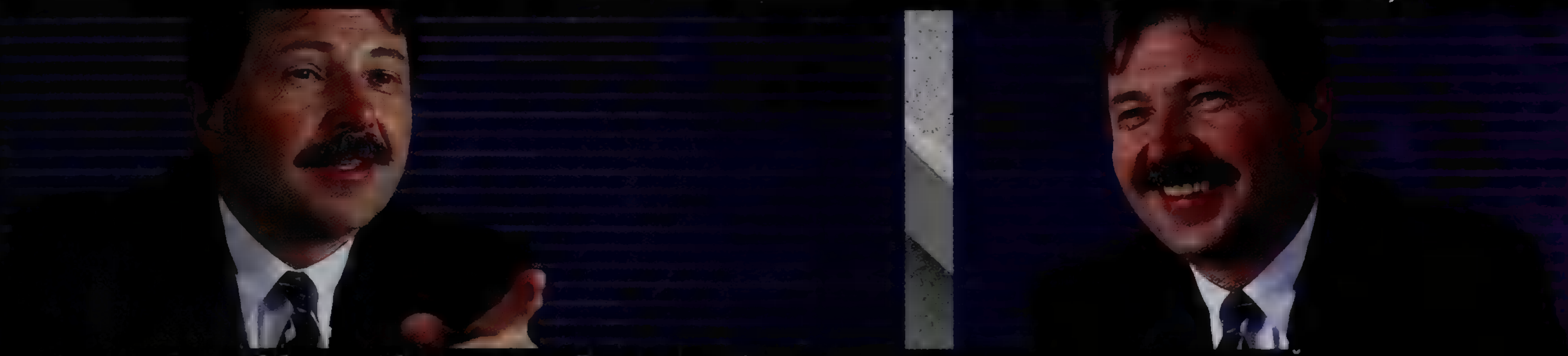
In the same marketplace, Jami, Inc. has acquired Fixtures Manufacturing (Fixtures Furniture), Kansas City. Jami already owns The Harter Group and ABCO Office Furniture.

Gearing up. Responding to existing and anticipated global demand for its solid surfacing, DuPont will nearly double its Corian production capacity with a new continuous-casting sheet line at its Buffalo, N.Y. plant.

Mod-bit empire. Schuller International of Denver is acquiring Nord Bitumi U.S., Inc., headquartered in Macon, Ga., as well as that firm's Italian parent, Nord Bitumi SpA, Verona. Though not yet finalized, Schuller also anticipates purchasin
Dibiten USA, another modified-bitumen manufacturer, with plants
this country and Mexico.

Who recycles wood? The Natio
Wood Recycling Directory lists mo
than 650 recovered-wood receiving
sites—firms that make products su
as insulation, fiberboard, and landscaping material. Free after $5
handling from the AF&PA, 1111 1
St., NW, Suite 800, Washington, D.
20036. ■

When Mike Svoboda of AT&T needed to renovate 55 washrooms,



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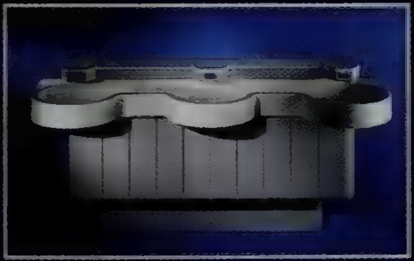

We were able to easily incorporate all Express units into limited, existing spaces.”

– Mike Svoboda
AT&T Facilities Manager

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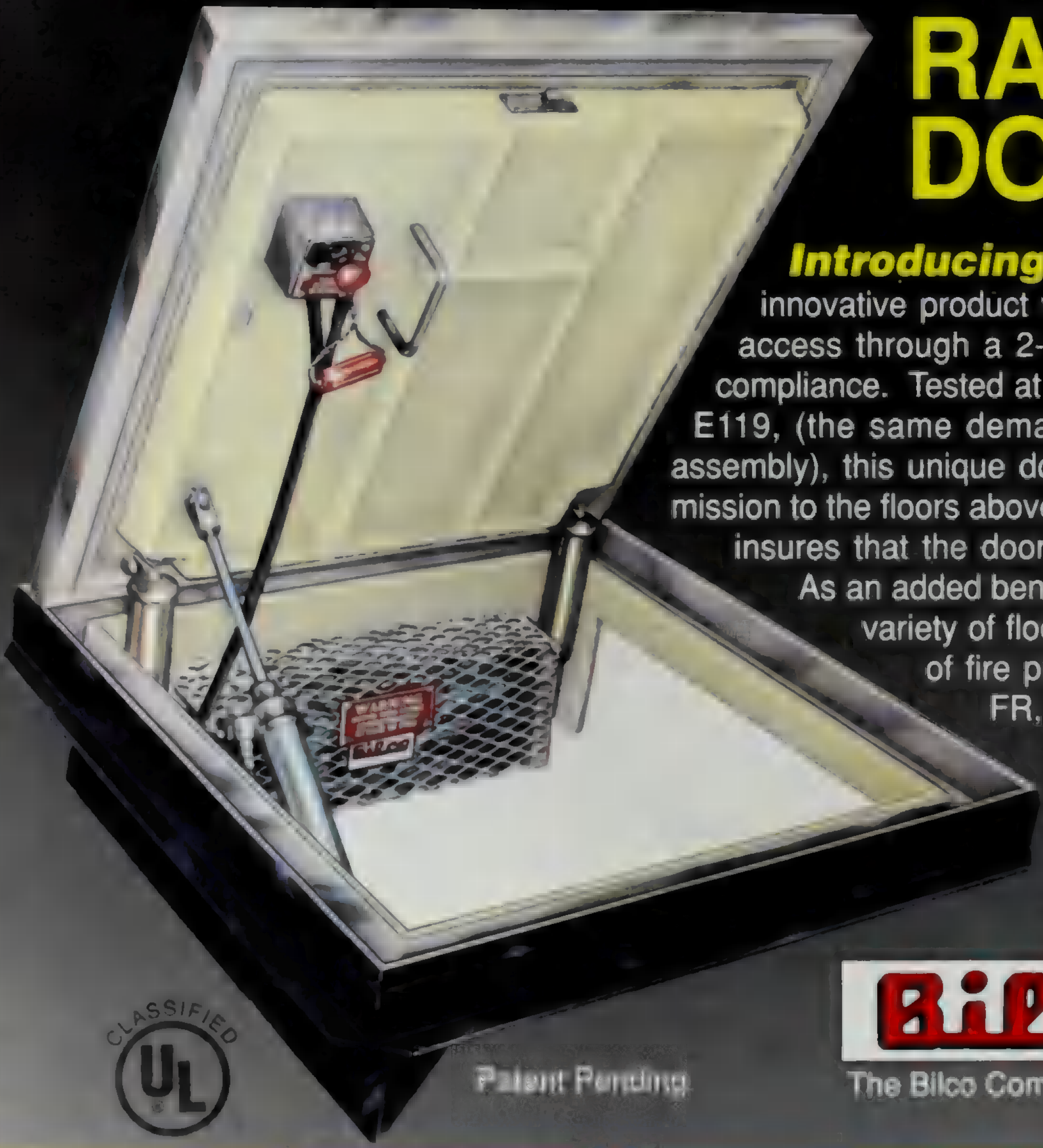

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***Photo A**...Automatic self-closing system.*

***Photo B**...Composite cover design with fire proof coating.*

***Photo C**...Cover [illegible] accepts [illegible] floor [illegible]*

A

B

C

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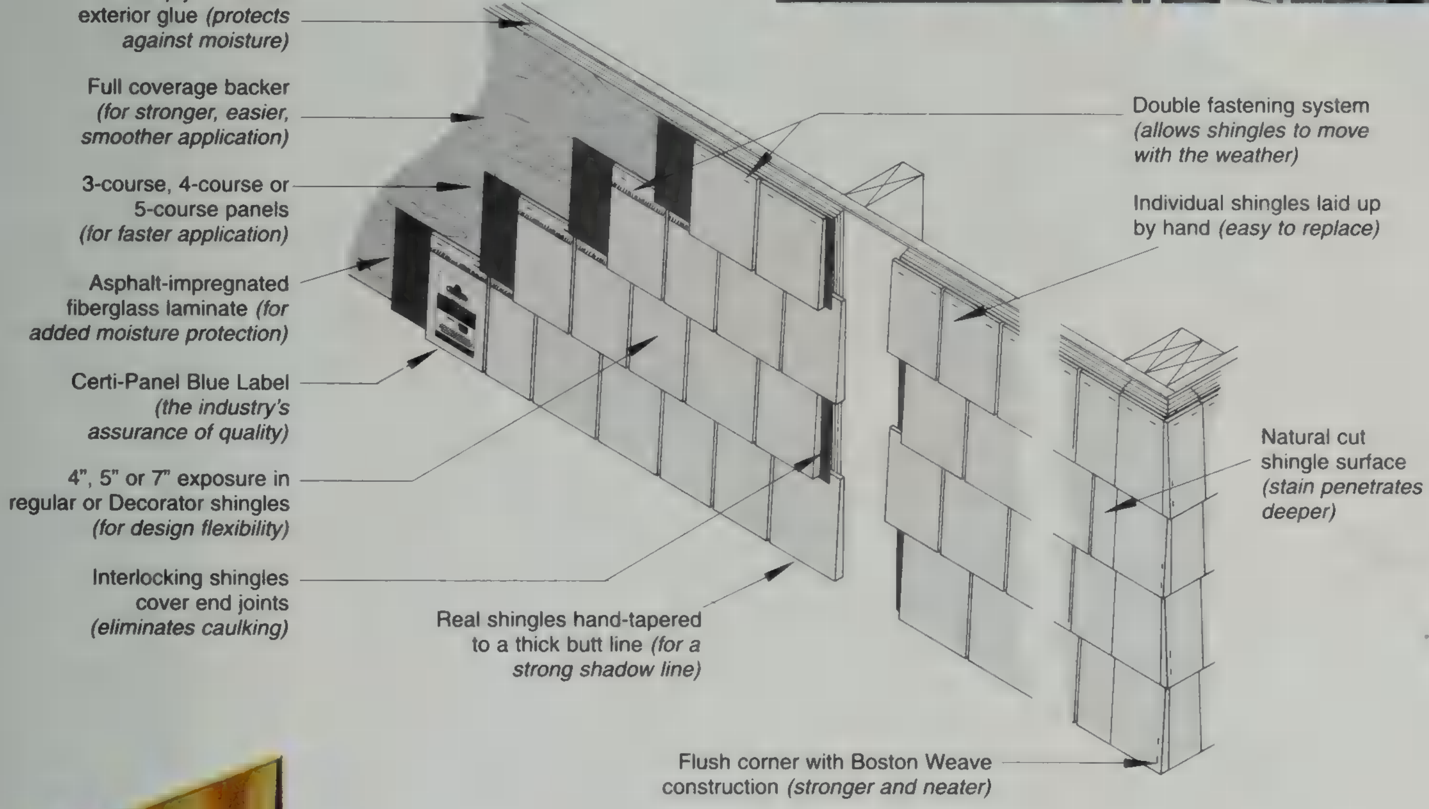
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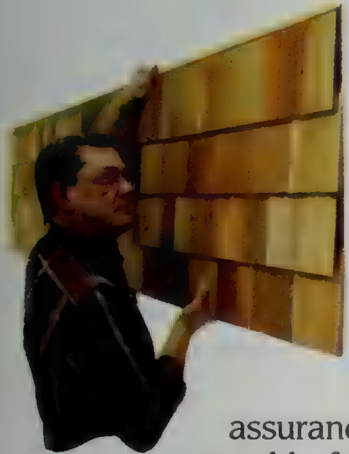

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HOW TO DESIGN CONTROL INTO YOUR NEXT PRISON PLUMBING SYSTEM

The cost of corrections - including state, local, and federal corrections budgets – ran in excess of more than $20 billion a year in the early 1990s. The cost of constructing enough cells just to keep up with the constant increase in prisoners is estimated at $6 billion a year.

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helps establish order when inmates seek to wreak havoc with the plumbing network

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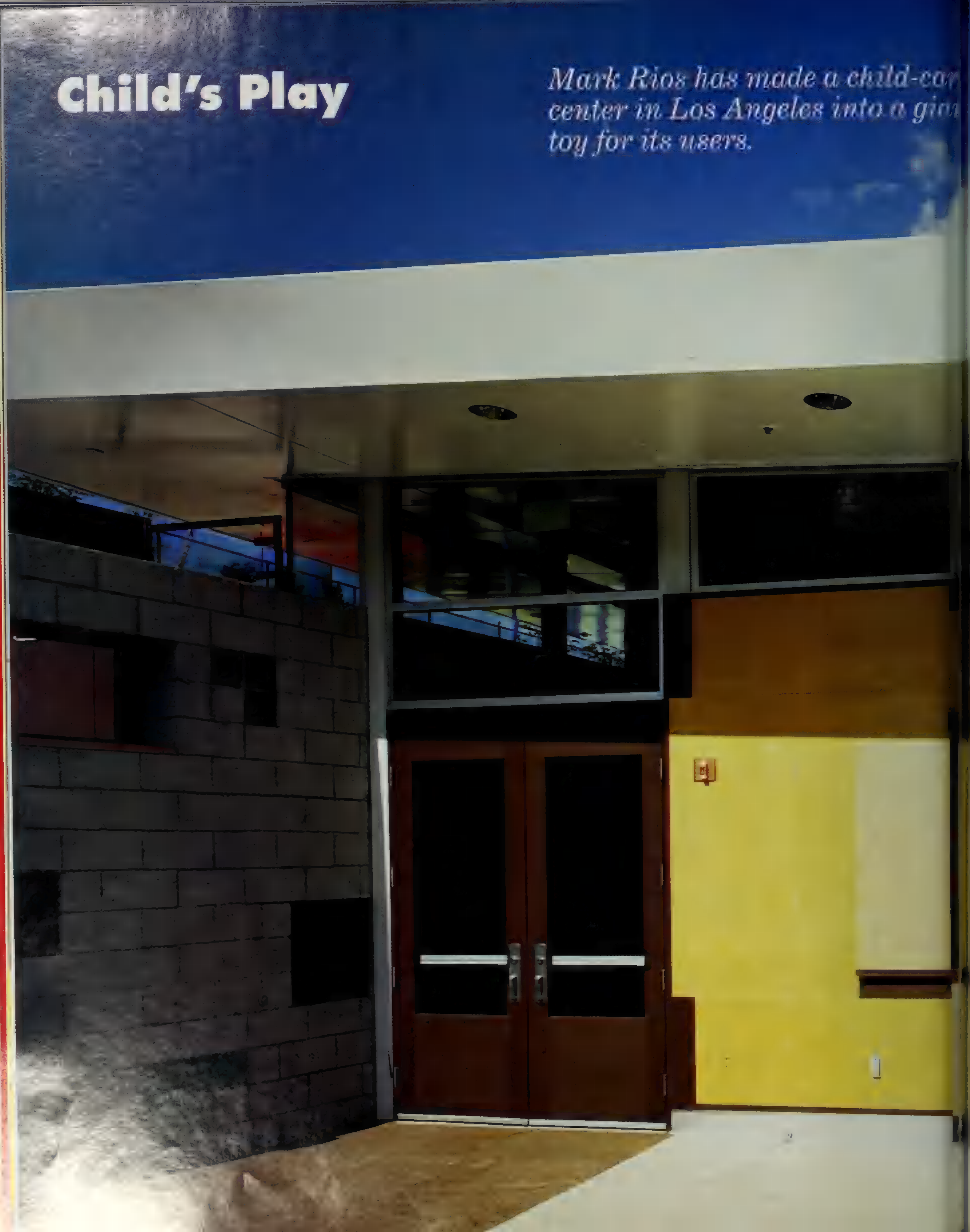
ARCHITECTURAL RECORD 3/1996

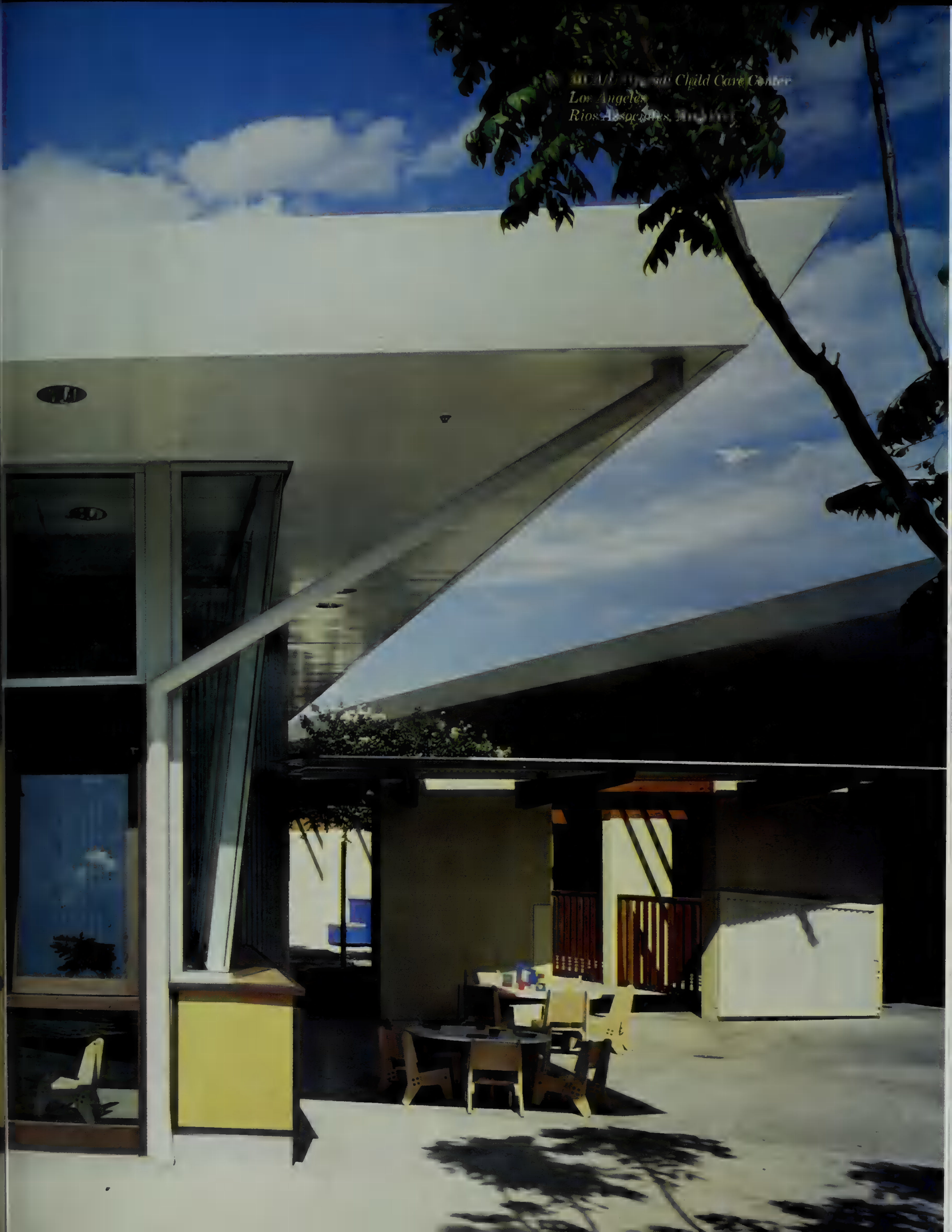
Large-scale developments with different architects working on parcels and projects side-by-side are nothing new. So when the Mexican government announced its ambitious plan for the National Center for the Arts in 1992, and organized a design competition among six architects, eventually awarding each team a building or more, the scenario seemed fairly predictable for an economic boom-time. But then the bottom dropped out of the Mexican economy, and the project staggered toward completion. As realized, the Center is proof that major architectural projects are shaped as much by economic and political forces—then-President Carlos Salinas' desire to assure his legacy would be built before the end of his administration—as by their architects, no matter how talented (pages 78-91). Economics and politics are at the heart of the work of an entirely different group: the Auburn Rural Studio. This band of students, guided by their teacher, architect Samuel Mockbee, are taking their architectural skills on the road to those who need it most, designing and building for people living below the poverty level (pages 74-77)—unorthodox teaching practiced in the service of the local community. Independent spirit also figures in the Garden Quadrangle at St. John's College in Oxford, England by MacCormac Jamieson Prichard (pages 92-97). It's the British tradition of "maverick Classicism," as London correspondent Hugh Aldersey-Williams calls it, that both visually connects and sets apart this building from its historic neighbors. This month's Building Types Study 735/Judicial Facilities (pages 98-107) taps a traditionally-rich vein from courthouses to prisons. It depicts a thriving market changed by technology (courthouses are incorporating monitors to allow jurors to view evidence) and the needs of special populations (prisons must increasingly accommodate an aging inmate population). Mark Rios of Rios Associates has more than accommodated special needs in the MCA/Universal Child Care Center in Los Angeles (pages 70-73)—he has turned them into an architectural primer. *Karen D. Stein*

anufacturers' Sources
ted on page 120

Child's Play

Mark Rios has made a child-car center in Los Angeles into a gia toy for its users.





MCA/Universal Child Care Center
Los Angeles
Rios Associates, Architect

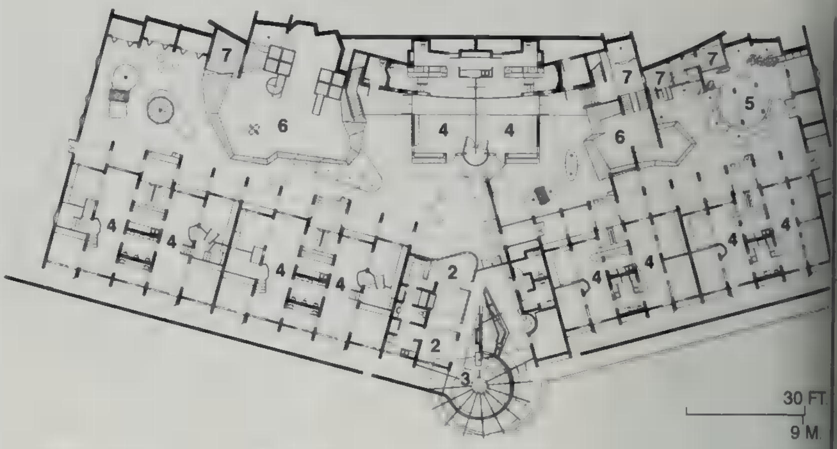
If teaching is best accomplished by example, then Mark Rios has become an unofficial instructor of architecture to the young. A series of day-care center commissions for competitive entertainment conglomerates, including the MCA/Universal Child Care Center shown on these pages, has provided the Los Angeles-based architect with a growing audience for his playful combination of childlike forms, which both accommodate and amuse. It's architecture made easy for beginners.

While the site, a leftover sliver of land abutting the Hollywood Hills and surrounded by a sea of parking lots, provided little obvious inspiration, Rios was able to boost his prospects by creating a platform for his building on a low, earthen ledge. From the street, the center appears as a low-slung concrete-block bunker—a protective image that is reassuring to parents dropping their children off on their way to work.

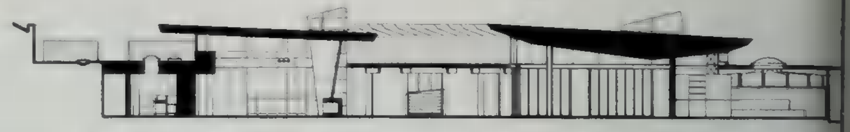
Inside, an overall sense of security gives way to spatial freedom as classrooms, with nap and changing areas tucked in between, open up to a sunny, south-facing courtyard that more than doubles the size of the 10,000-square-foot building. The modest size of the rooms is a deliberate attempt to recreate a home environment, explains Rios. The classrooms are connected on the outside by an arcade of stocky stucco-covered columns topped by a chunky red-stained douglas fir beam trellis—a primer on structure. Another message here is that teaching (or learning) doesn't occur only inside.

Play areas are a combination of formal and informal spaces made specific to age and supervision requirements: sand boxes, infant-crawl areas, wood climbing decks with balconies overlooking classrooms are all meant to incite children's curiosity, as are artist Paul Hershfield's porcelain-enamel panels of outdoor vignettes, which are positioned throughout. The forms are simple and exaggerated for effect—the boomerang-shaped structure and tilted metal roofs meant to resemble airplane wings. They inspire children's imaginations, but also fulfill programmatic requirements: the single-corridor of classrooms is easy to monitor and thick roof planes contain hvac equipment, while clerestories in between admit daylight. Rios used a neutral, and nearly indestructible, palette of materials so that the children and their art projects and toys can literally take over. Furniture, including Rios-designed stackable plywood chairs with giant bolts that call attention to their assembly and oversized upholstered armchairs that fit one adult and two or more kids during story time, reinforce a sense of wonder while withstanding heavy use.

For Rios, the series of child-care centers has allowed him not only to refine an emerging program-intensive building type, but also to show-off the breadth of his 10-year-old practice, which, he reports, is 40 percent architecture, 40 percent landscape design, and 20 percent interiors and graphics—a diversity he models after his heroes Ray and Charles Eames. Achieving the right balance among all the disciplines is a constant challenge for Rios. "The office," says Rios, "is my biggest design problem." *Karen D. Stein*



1. Reception
2. Office
3. Staff lounge
4. Classroom
5. Crawl area
6. Sand area
7. Play deck



NORTH - SOUTH SECTION

Boomerang-shaped, the 10,000-square-foot building, located at the edge of Universal City Studios, perches on a new hill made from the excavation of a nearby site. Classrooms open to a series of outdoor play areas carved into the hillside. These are south-facing (and, as a result, usable year-round) and are screened from the adjacent freeway and parking lots (plan top and photo opposite top). The staff lounge bulges out from between the two wings (below left and bottom right, opposite) and overlooks the entrance (bottom left, opposite).

Credits
MCA/Universal Child Care Center
Los Angeles
Architect: *Rios Associates—Mark Rios, principal; Julie Smith, project architect; Frank Clementi, senior designer; Jonathan Black, job captain; Polly Furr, Tom Marble, Guido Porto, Richard Prantis, Dale Wall, project team*
Engineers: *Stephen Perlof Consulting Structural Enginee (structural); Mike Salazar & Associates (mechanical); VIRTEC Engineering (electrical); IWA Engineers (civil)*
Consultants: *Burud & Associates (child care); Associated Irrigation Consultants (irrigation); Converse Consultant West (geotechnical); Ralph P. Mellm & Associates (specifications); Paul S. Veneklasen & Associate (acoustics)*
General Contractor: *Pacific Southwest Development*

ewitt/Garrison Architectural Photography photos

Postcards From The Edge

Samuel Mockbee and his Alabam Rural Studio take architecture schooling on the road.

Samuel Mockbee is part architect, part country doctor. The maladies he treats are of the housing variety and though no cure-all is imminent, strides are shown on these pages. In recent years, Mockbee has transformed his teaching post at Auburn University in Auburn, Alabama, into his own traveling rehabilitation center, and his students, participants in the school's five-year architectural program, are interns—trained for duty and on round-the-clock call.

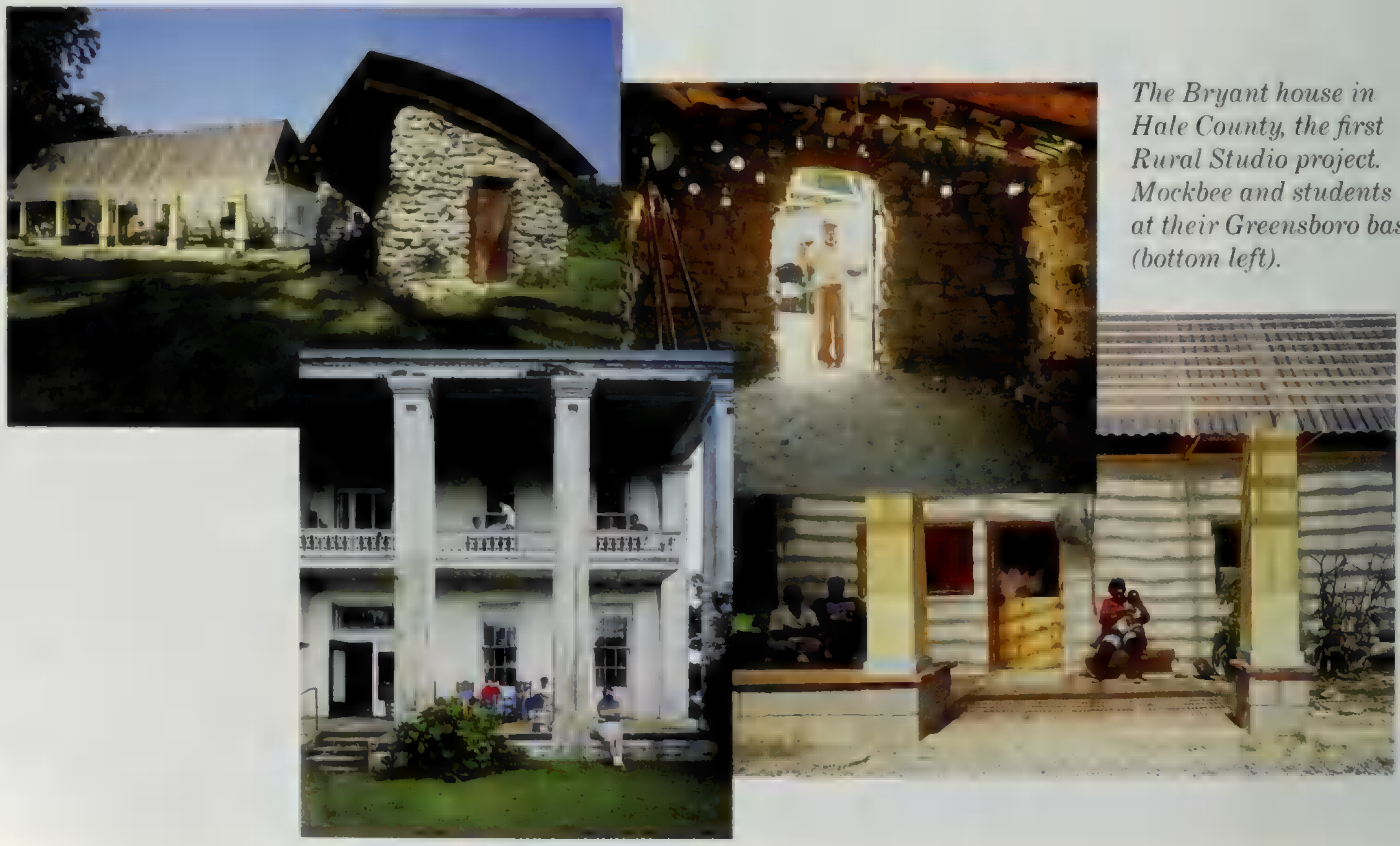
In 1989, at the behest of a Madison County, Mississippi nun, Mockbee started doing small projects for families living below the poverty level near Canton, where he lives. Mockbee already had a successful firm of his own (in 1983 he began collaborating with Coleman Coker and the duo formed Mockbee Coker in 1986). Though Mockbee Coker had captured attention in architectural circles for its work—mostly single-family residences that imbue rural vernacular forms with an otherworldly elegance [RECORD, April 1992, pages 132-139]—both principals supplemented their practice with teaching stints at a variety of Southern schools.

Five years ago, on one of his frequent interstate drives between Canton and Auburn, Mockbee conceived the Rural Studio: an architectural clinic *in situ*. Along with his department head, D.K. Ruth, Mockbee appealed to Alabama Power for financial support and was granted some $200,000, partly in matching-gift grants, over a five-year period. They chose as their base the cotton "black-belt" town of Greensboro, Alabama, (population 3,000), where the local nursing home donated an abandoned antebellum mansion as a live/work space: "redneck Taliesin South," Mockbee calls it. He turned to the Hale County Department of Human Resources for guidance in selecting clients.

They found Shepard Bryant and his family (photos below). Before th project began, the Bryant family was living in a shack lacking heat, plumbing, weatherproofing, and structural integrity. The design of t new Bryant house was completed during a design charrette. One group of students researched inexpensive materials, and another group did construction work the following academic quarter. Walls a hay bales coated in stucco. The floor is a concrete slab topped with brick. An acrylic awning screens the front porch—stylishly practical Another student built an adjacent smokehouse of stone with glass-bottle portholes and a metal roof made of old road signs. "We'd have died without them [Mockbee and the students]," says Bryant.

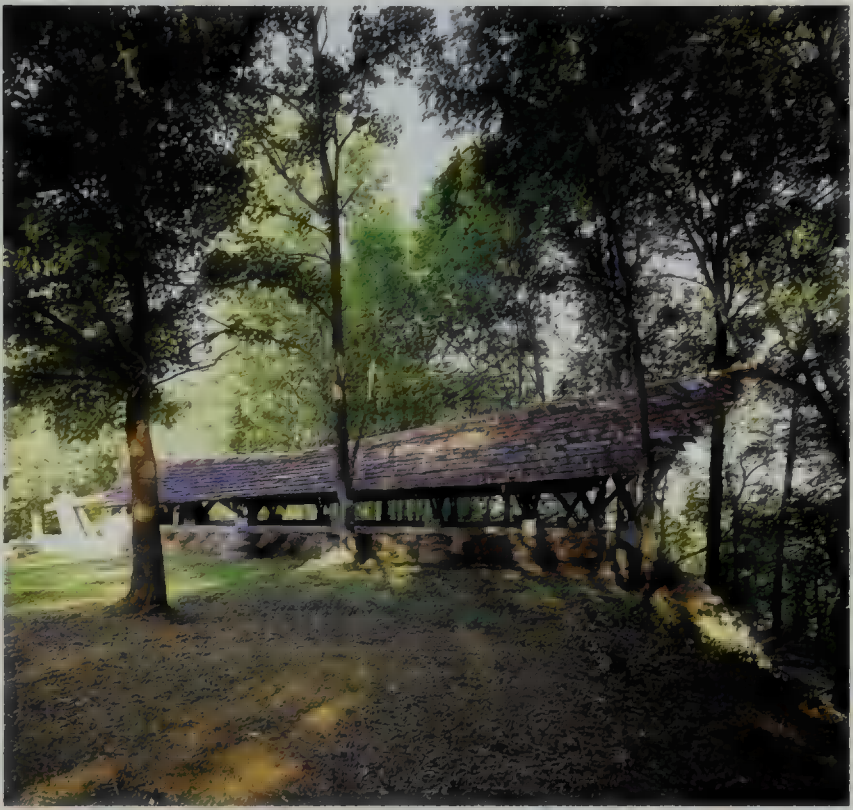
"What I look for are projects that have a moral sense. Architects ca have a profound effect on a community and vice versa," says Mockbe of the Rural Studio's goals. "It's not about the architect's passion, bu the architect's compassion." Another house is underway. Meanwhile, Mockbee maintains his practice with a virtual studio: Coker, now at the American Academy in Rome as a 1995-'96 Rome Prize recipient, normally lives across state lines from Mockbee in Memphis.

While Mockbee is quick to credit his students for each project, his presence is felt. "He's papa," says former student Ruard Veltman, who stayed on in Greensboro to build a community chapel as his thesis project (opposite). "Whether we like it or not, he's always the to remind us of what we need to do." *Karen D. Stein*



The Bryant house in Hale County, the first Rural Studio project. Mockbee and students at their Greensboro base (bottom left).

Yancey Chapel
Hale County, Alabama

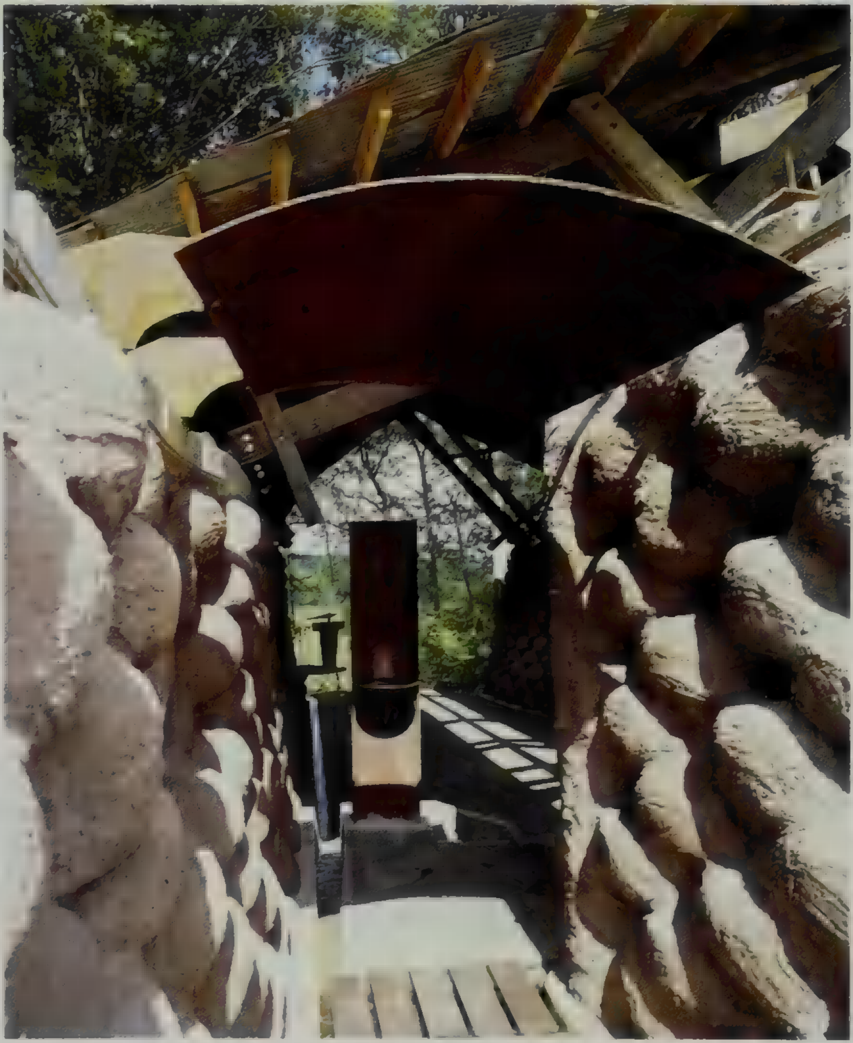


After an academic quarter with Professor Samuel Mockbee's Rural Studio in Greensboro, Alabama, working on the Bryant House (opposite), Ruard Veltman proposed a building rather than what he calls a "typical paper project" for his fifth-year thesis. Thomas Tretheway and Steven Durden joined him and the three students eventually received approval for their proposal from the architecture faculty of Auburn University.

"It went backwards," recalls Veltman of the design process. The trio had the idea of constructing a chapel—"something for the community," says Tretheway—and then went about finding a client and funding. Managers of a dairy farm outside of Greensboro heard of the project and offered a parcel of land. Knowing that construction would have to be done as cheaply as possible, the students researched low-cost materials, settling on used tires, which were plentiful in the area and at the right price—free. Central Tire in Selma, Alabama—an unofficial landmark on the twice-weekly route between the Rural Studio's Greensboro outpost and the University campus in Auburn—was under court order to clear its lot, so it donated some 1,000 tires to the project. Tretheway says the "longevity of tires" appealed to the three designers.

The students sited the chapel on a ridge overlooking a riverbed and excavated a slice of land so that visitors descend into a long, narrow space. Tires were packed with the excavations: as the tires filled with dirt, which was pounded with sledge hammers, they inflated, stabilizing and strengthening the structure.

This technique of rammed-earth construction proceeded at a slow pace, about 10 tires per day per person, Veltman reports. Rebars were planted to reinforce the frame. The tires were then wrapped in wire mesh and coated with stucco. Concrete beams provide a frame for the roof structure, which was built from salvaged lumber. Veltman, Tretheway, and Durden cut tin from old barns into 18-



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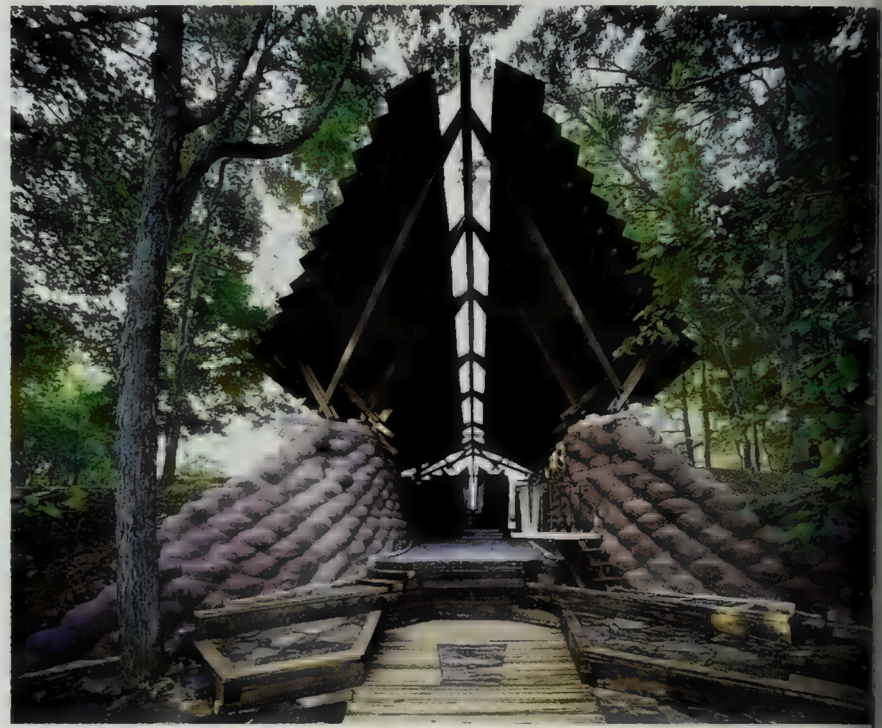
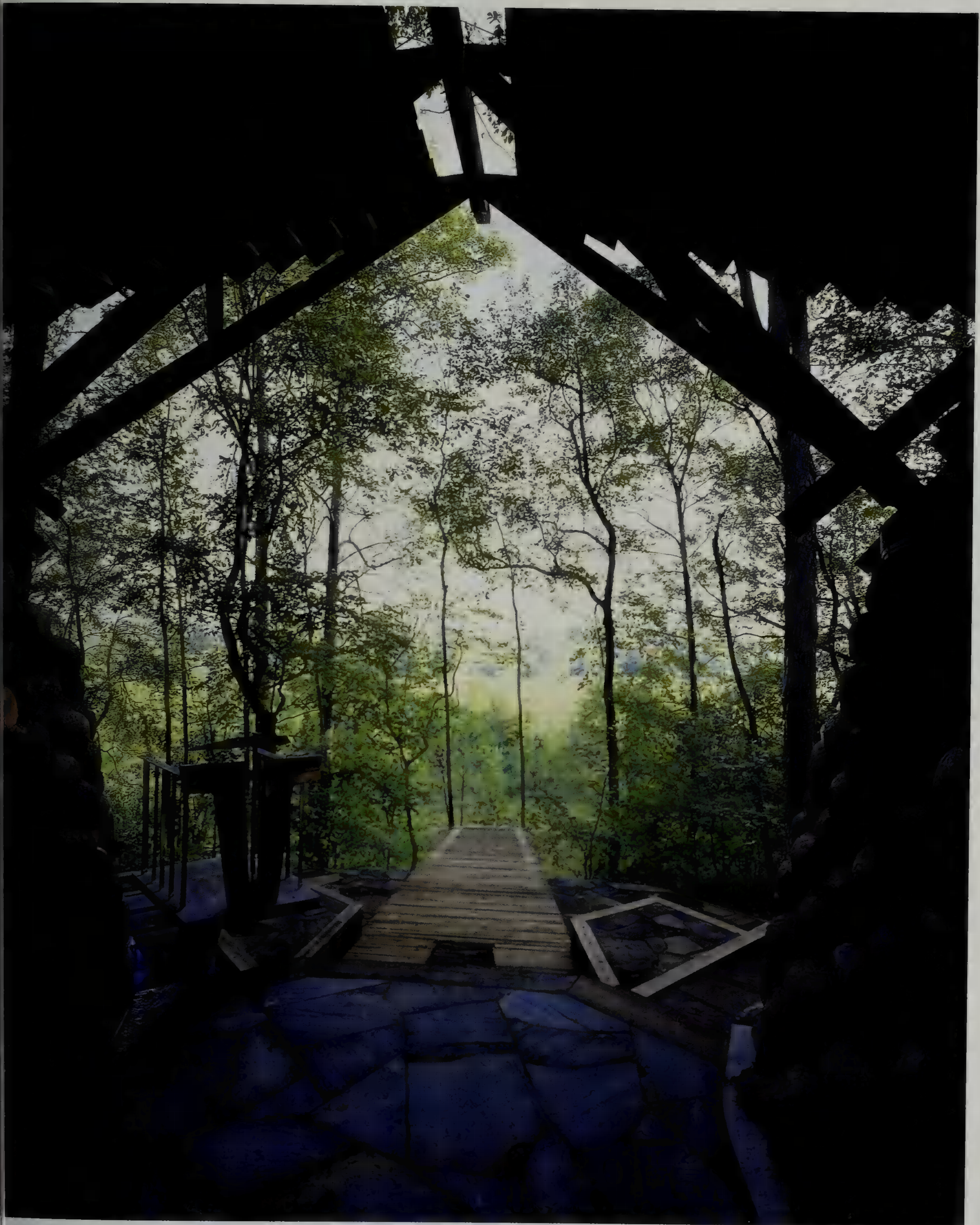
inch square shingles, and used scrap steel donated by the Hale County Department of Transportation to fashion a font and a pulpit. In all, less than $10,000 was spent on the project.

Intended to fit into its rural surroundings, at first glance the chapel intentionally resembles a dilapidated barn. After stepping down into the compressed entry way, visitors face a sculptural assemblage of materials: above, an 85-foot-long ridge beam supported by wood rafters, which Tretheway likens to "oars in motion;" on the floor, a puzzle-work of slate was culled in part from a nearby river bed. The sagging roof rises at the south end, admitting daylight into the end of the darkened space, where a wood deck is suspended over the bluff (opposite). Says Veltman of the procession from darkness to light: "It's like a jaw that opens wide to let you out. You're released back to nature."

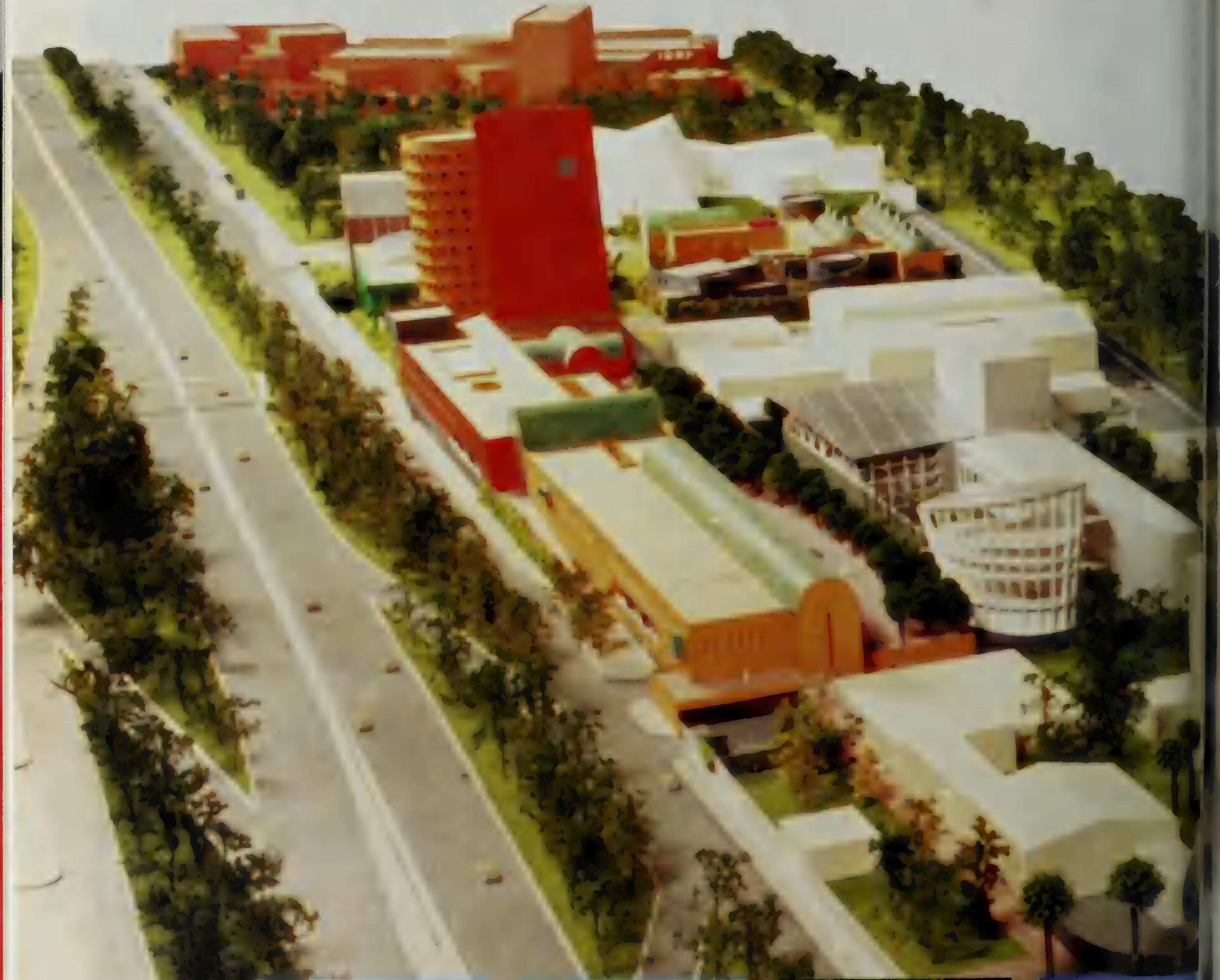
Credits
Yancey Chapel
Hale County, Alabama
Owner: *The Estate of J.L. Morrison*
Designers, Builders: *Ruard Veltman, Thomas Tretheway, and Steven Durden*
Faculty Advisors: *D.K. Ruth, Samuel Mockbee, Richard Hudgens*
Consultant: *Paul Darden (structural)*
Project Team: *Gary Owen, John Tate, David Brush, Scott Rae, Lindsey Lee, Scott Holmes, Timothy Burnett, Tiffini Lovelace, Charles E. Martin, Jamie Phillips, Andy Sharpe, Brandon Jones, Laura Durden, Jeff Tate, Ben Mosley, Charles Jay, Dennis Langford, Allen Jeffries*





Instant Campus: Just Add Students

With a masterplan by Ricardo Legorreta, six Mexican architect designed and built a national ar campus in less than two years.



Research Tower
Legorreta Arquitectos

Central Services Building
Legorreta Arquitectos

School of Visual Arts
Legorreta Arquitectos

National Conservat
Teodoro González d

It was President Carlos Salinas's very own *grand projet*—a national campus of arts schools that would rival the great buildings commissioned by François Mitterand in France. Conceived in 1992, when the Mexican economy was soaring, the project would bring together national schools of music, dance, fine arts, drama, and cinematography that had been scattered around Mexico City, and allow students of the various disciplines to learn from and collaborate with each other.

In December 1992, the government announced that Ricardo Legorreta had won a competition for the masterplan of the National Center for the Arts and that the five other Mexican architects involved in the competition had been invited to design individual buildings in the complex. Altogether there would be 1.7 million square feet of construction on a 1.3 million-square-foot site south of downtown where the national school of cinematography and some large film studios already made their home. Because Salinas wanted to cut the ribbon on the project before leaving office at the end of 1994, the design and construction of the entire campus had to be done in less than two years.

Despite the outrageous time constraints and the collapse of the Mexican economy at the end of 1994, the project was completed, basically, on time. But by all accounts, the process wasn't pretty. Fast-track design and hurried construction have left all of the architects feeling that corners were cut, details left undeveloped, and quality sacrificed. "It was absolutely crazy" says Legorreta, shaking his head half in awe that it all got done and half in regret that it had to get done so fast. "Sometimes we had 20,000 workers on the site!" But the client, the National Council for Culture and the Arts (the Mexican equivalent of a ministry of culture), was committed to the project. Its president, Rafael Tovar, "was the soul of the project," says Legorreta, and never lost faith. Also helping to make the situation manageable was a trio of engineers who were the top officers of Mexico City's department of public works, which served as the general contractor for the entire complex.

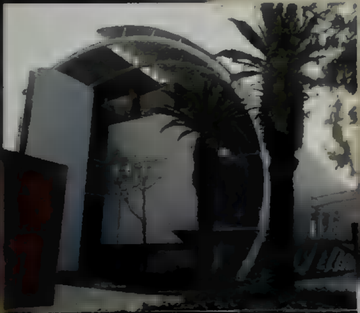
Two different models of architects working together
Because time was in such short supply, Legorreta set just a few design guidelines (for example, restricting each building's footprint to 40 percent of each site and limiting building heights to 66 feet) and then let each architect work on his own project. Legorreta compares this process to the one used on a different job he worked on at the same time—a multi-building complex in the heart of Mexico City commissioned by the Reichmann family and involving Aldo Rossi, Fumihiko Maki, Charles Correa, Skidmore, Owings & Merrill, and others. For the Reichmann project, strict design guidelines were set and the architects got together on several occasions to critique each other's work and coordinate their designs. Legorreta much prefers this more collaborative model. But the Reichmann project exists only on paper, due to the collapse of the Mexican real-estate market, whereas the National Center for the Arts—for all its faults—is up and running.

Other than time, the greatest challenge was the long narrow site. Hemmed in by two major roads and the existing film-studio buildings, the arts campus was an extruded piece of land that made it difficult to knit individual facilities into a cohesive fabric. Instead of fighting the site's geometry, Legorreta designed a long, low Central Services Building in the middle of the campus and from it spun off a series of plazas, courtyards, and terraces (see following pages). While a colorful Research Tower serves as a visual landmark for the entire campus, retaining walls and a continuous strip of paving made of local black lava stone act as a common thread running from one end of the site to the other. The distinctive black stone, which also shows up on parts of the Legorreta-designed Fine Arts School, turns out to be an excellent device for highlighting circulation through the campus.

A pedestrian campus built on a raised plaza
Legorreta had originally hoped to place parking at the periphery of the campus, but the tight dimensions of the site forced him to bring at least some cars into its center. To minimize the impact of the automobile, the architect placed a garage for 600 cars under the Central Services Building and then built the main plaza level of the campus above it. A three-story structure for 1,000 cars adjacent to a multiplex cinema is at the east end of the campus, separated from the art schools by a small park. Once on the plaza level, visitors discover a pedestrian campus where paths, ramps, covered arcades, and stairs make it easy to get around. The Achilles' heel of the masterplan, though, is getting into the campus on foot. The intersection of the two main roads at the west end of the site would seem to be the logical location for a main entry, especially since it is close to bus and subway stations. But the primary gate is halfway down the long north side of the campus, so people can enter at the Central Services Building.

Viewed as individual projects, the buildings are a showcase for important ideas that have long pervaded Mexican architecture—such as blurring the distinction between outdoors and indoors, using strong geometric forms to stand up to the powerful sunlight, and experimenting with color and texture. But each building makes its own bold statement, so the overall effect of the campus is much like that of a World's Fair: all foreground and no background architecture. *Clifford A. Pearson*

School of Dance
te Flores


School of Dramatic Arts
TEN Arquitectos

National Theater of the Arts
Grupo LBC Arquitectos

© Sebastian Saldivar

Cinema Complex
Sordo Madaleno Arquitectos

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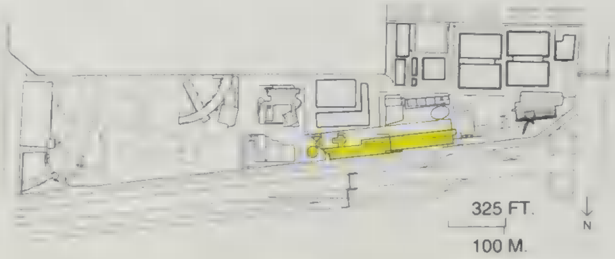
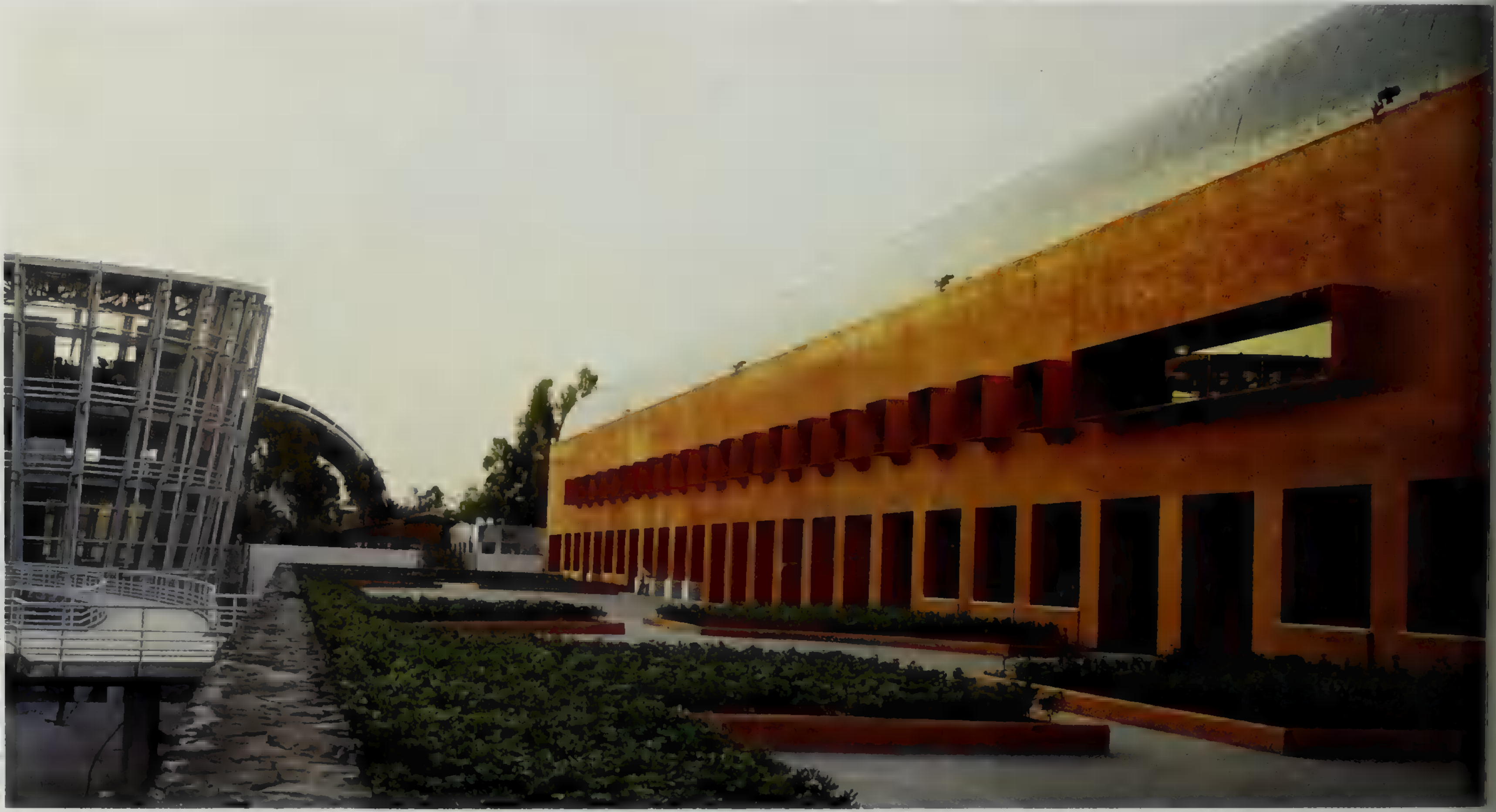
Central Services Building and Research Tower

Legorreta Arquitectos

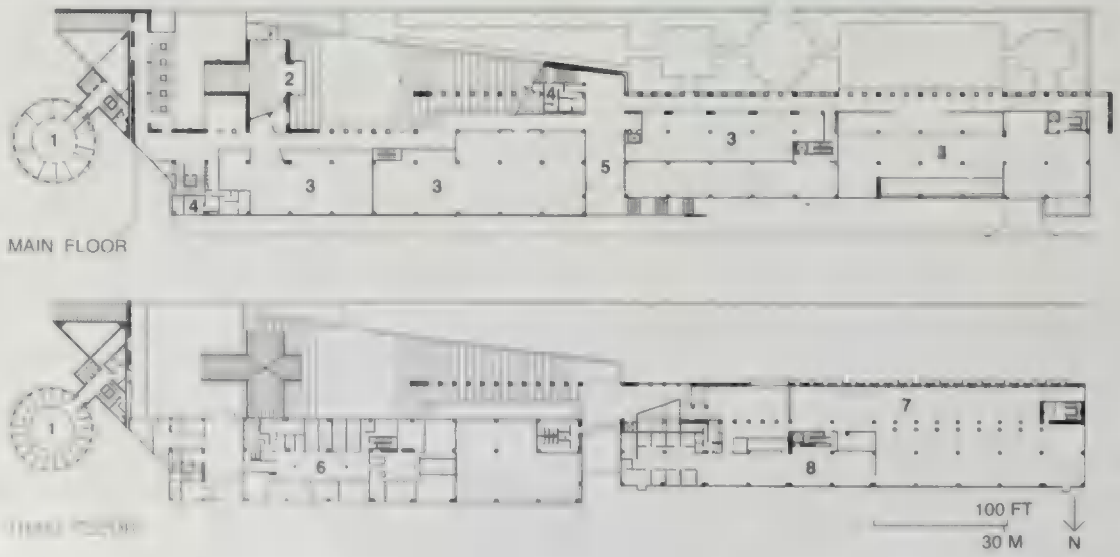


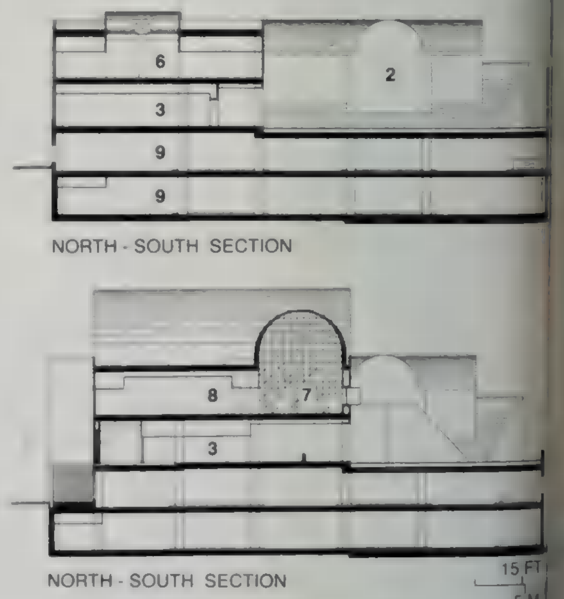
Located at the heart of the campus, the Central Services Building and the Research Tower serve as shared facilities for all of the schools at the National Center for the Arts. The library, multimedia center, auditorium, shops, and parking are housed in the 700-foot-long, three-story Services Building (right in photo below). Administrative offices and research cubicles fit in the 12-story tower (opposite, 2).

Because the campus is at its narrowest here, "We decided to tak a more urban approach to circulation," explains Ricardo Legorreta, whose firm master-planned the entire campus and designed these common facilitie This approach resulted in a Services Building that acts as a Mai Street for the campus, incorporating shops and a covered walkway for most of its great length. Gentle ramps and stairs



© Bryan Whitney photos, except as noted

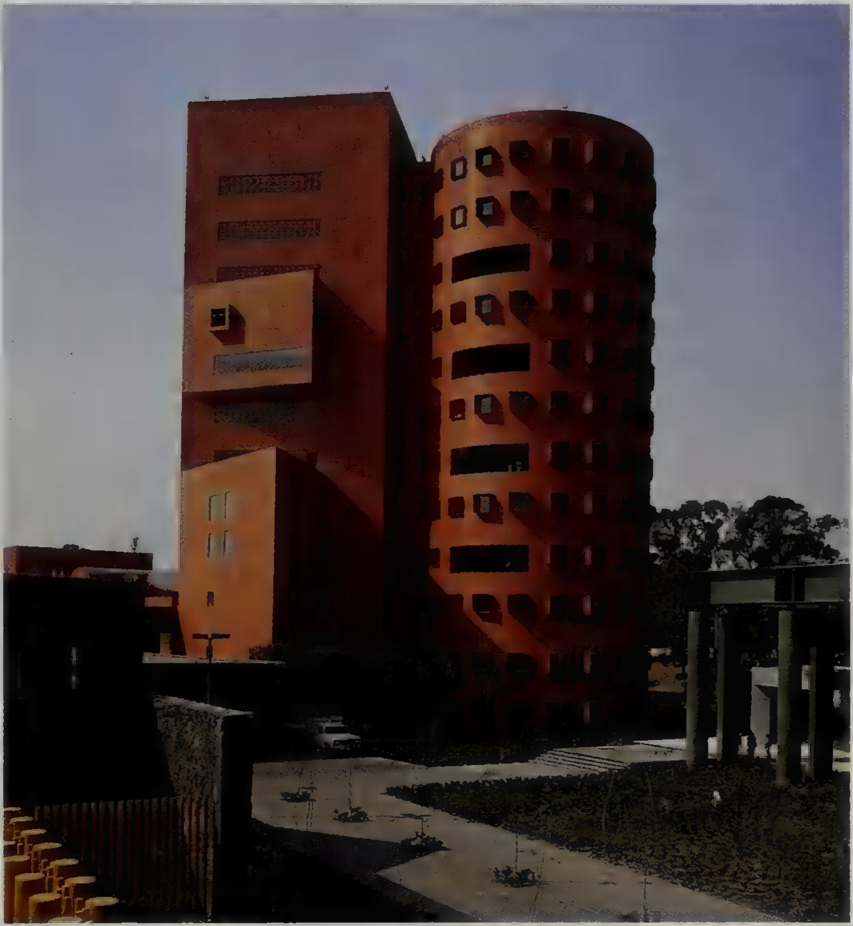




1. Research tower
2. Auditorium
3. [illegible]
4. Restrooms
5. Entrance
6. Multimedia center
7. Library
8. Offices
9. Parking

nnect the arcade to other levels the building and to a variety of azas and outdoor spaces (1). ie multimedia center and rrel-vaulted library (3) sit on e third floor, while parking for 0 cars is tucked on the lowest el. A concrete-frame struc- re, the Services Building is d in stucco like most of Legor- a's buildings. While some of e harder-edged buildings on mpus may not age well, Legorreta's vibrantly colored stucco can take a lot of wear and tear. East of the Services Building, the Research Tower provides a vertical anchor for the campus. A sculptural presence in the landscape, the structure is a pair of engaged towers: a triangular one for vertical circulation, multipurpose rooms, and services, and a circular one with offices and research cells (4). Each research group occupies two floors—a lower one with common spaces and offices and a mezzanine with cubicles around the periphery. Each group also has its own outdoor space, a wedge-shaped terrace sliced from the 12-story cylinder. For sun protection, metal shades project from windows—extending farthest on the south face and staying almost flush on the north. A concrete structure, the tower is "built like a silo," says Legorreta. *C.A.P.*

Credits
Central Services Building and Research Tower
Architect: *Legorreta Arquitectos—Ricardo Legorreta, Victor Legorreta, Noe Castro, architects; Max Betancourt, project manager; Miguel Almaraz, Benjamin Gonzalez, Francisco Vivas, design team*
Engineers: *DYS (structural); DIIN (M/E/P), Dypro (hvac)*



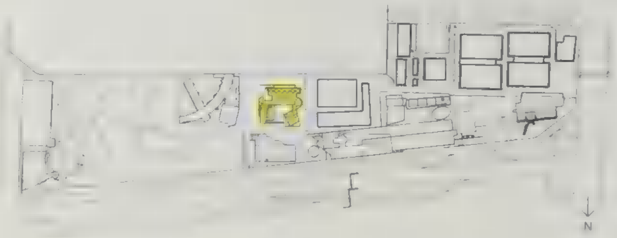
2

4

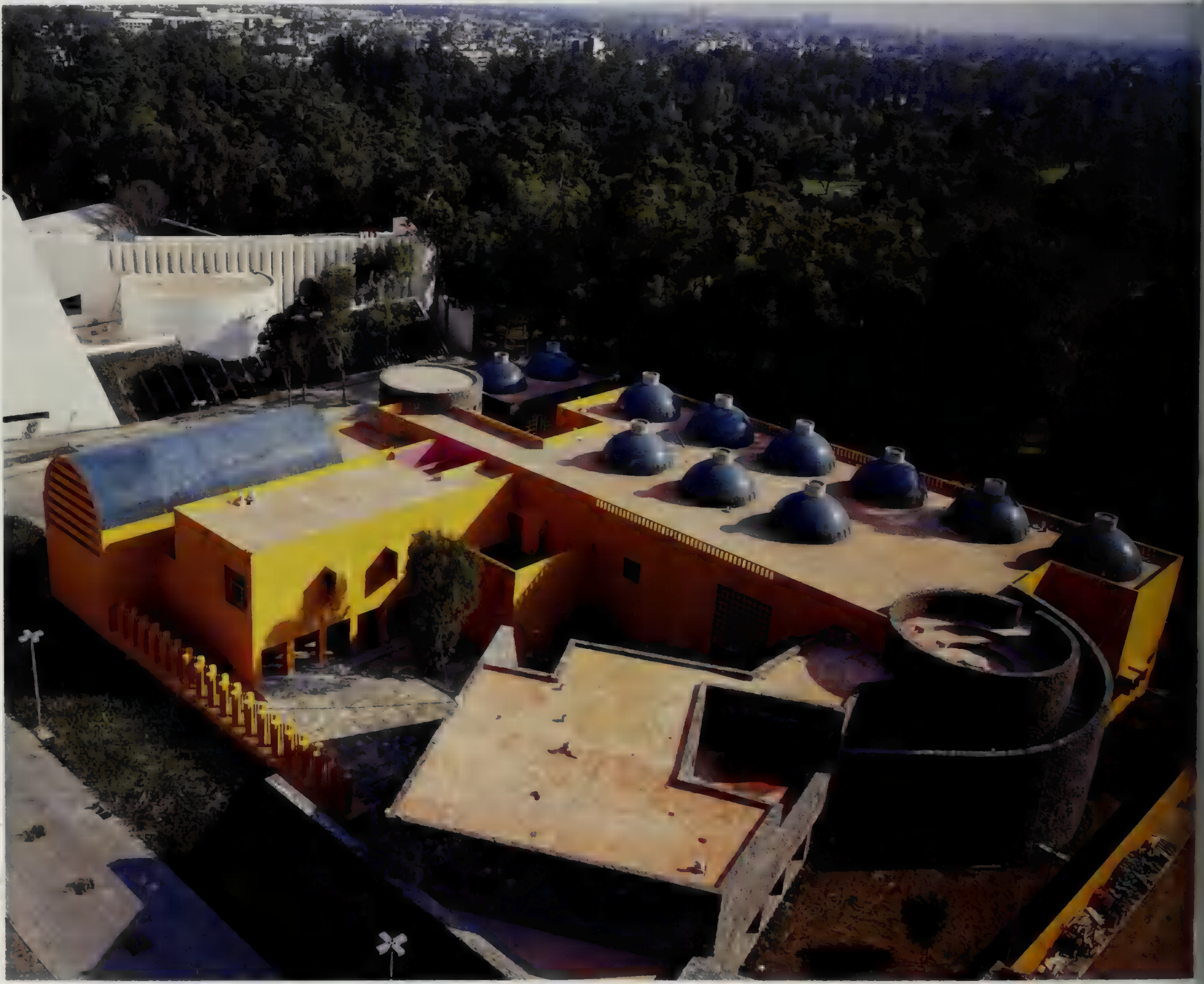
© Lourdes Legorreta

School of Visual Arts

Legorreta Arquitectos



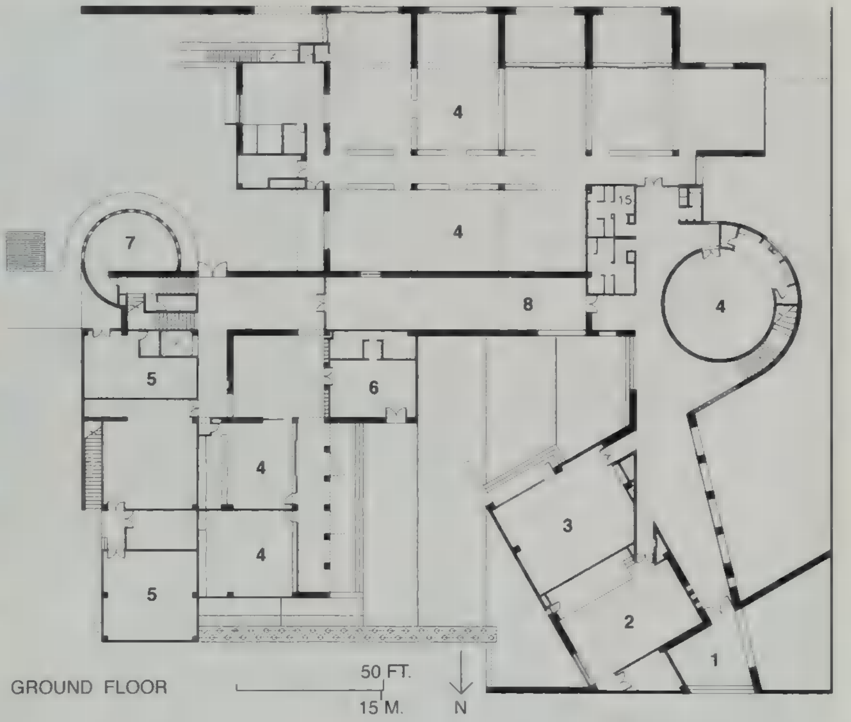
Inspired by the ruins of 16th-century Mexican convents, the School of Visual Arts is a 62,660-square-foot building that wraps around a series of courtyards and patios (below). Thick walls of black lava stone (opposite top) and a rambling plan that gives the impression of being a progression of additions help give the school a sense of history without literally imitating old architecture. Like most of the buildings on campus, this one does an excellent job of blending indoors and out. Instead of sealing the building and air conditioning it, the architects merely covered or shaded common spaces such as the first-floor lobby and terraces off some of the art studios. Natural ventilation and thick walls keep the indoors remarkably cool. Flexibility was a key demand in designing this building, in part



Lourdes Legorreta photos

ecause the school client hanged a couple of times during he design phase, and in part to ccommodate the changing ratio f students in the various arts—ainting, sculpture, textiles, ngraving, and photography. "We vanted all kinds of artists to mix vith each other," says Ricardo egorreta. "We wanted to push t to the limit of chaos." Because isual artists love studios with aylight, but too much direct sunlight can create problems with heat gain, Legorreta Arquitectos brought light in from domes above the studios and used vaults and interior arches that allow rooms to borrow light from one another (bottom). According to Max Betancourt, the project manager for the building and for all of Legorreta Arquitectos' work on campus, the domes were originally supposed to be poured concrete. When that proved to be too expensive, Betancourt found traditional masons who could build the domes faster and cheaper using brick and no framework. "It was amazing watching the domes go up!" says Betancourt. In addition to front and back courtyards, outdoor areas used by the students include covered studio spaces on the first floor, terraces off second-floor studios, and even the dome-studded roof. *C.A.P.*

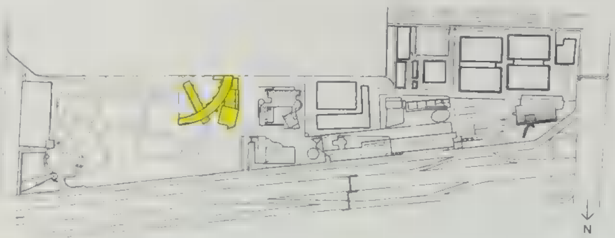
Credits
School of Visual Arts
Architect:
Legorreta Arquitectos—Ricardo Legorreta, Victor Legorreta, Noe Castro, architects; Max Betancourt, project manager; Miguel Almaraz, Benjamin Gonzalez, Francisco Vivas, design team
Engineers:
DYS (structural); DIIN (M/E/P); Dypro (hvac)

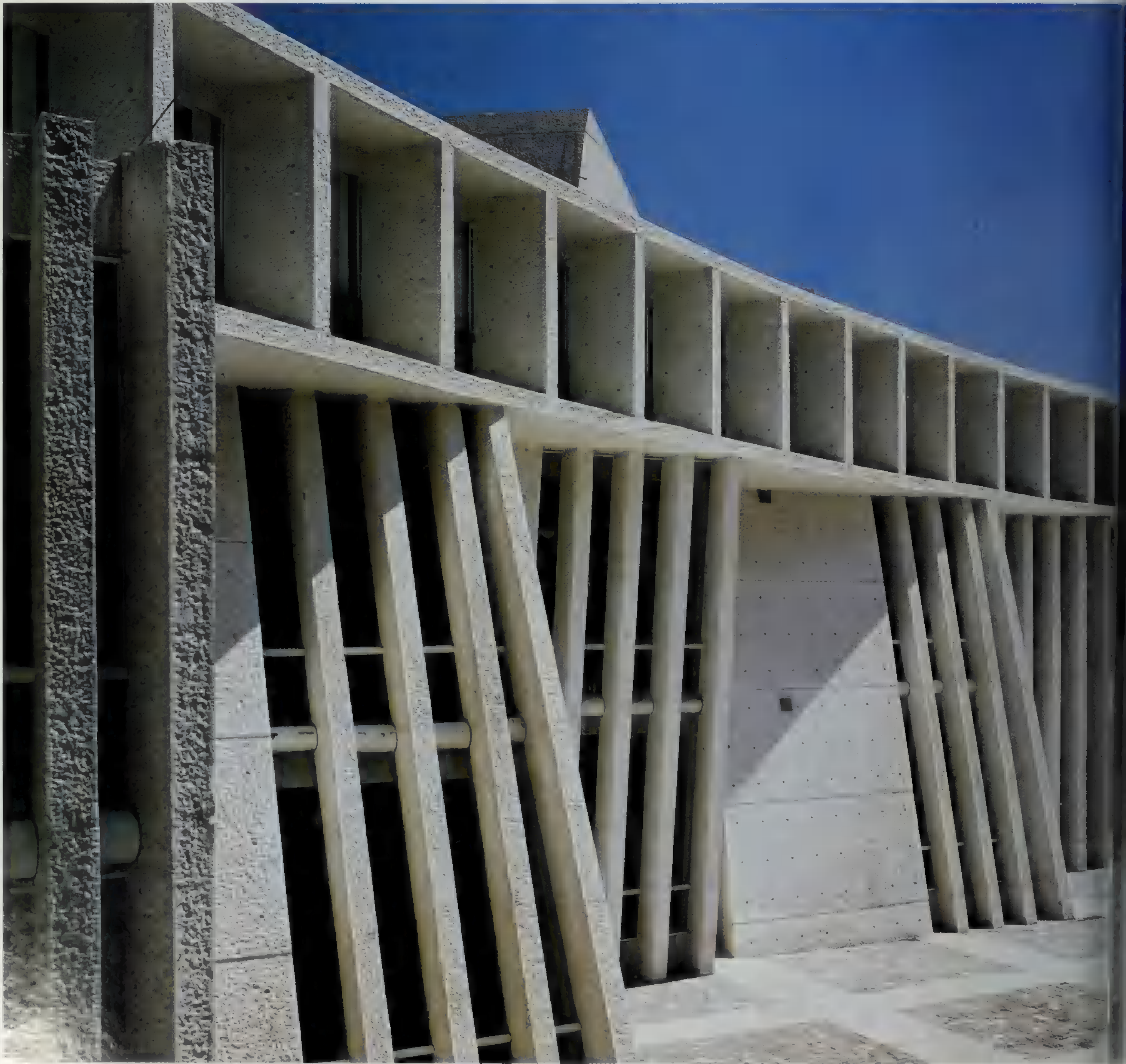


1. *Entrance*
2. *Multipurpose*
3. *Library*
4. *Studio*
5. *Support*
6. *Photography*
7. *Classroom*
8. *Galleria*

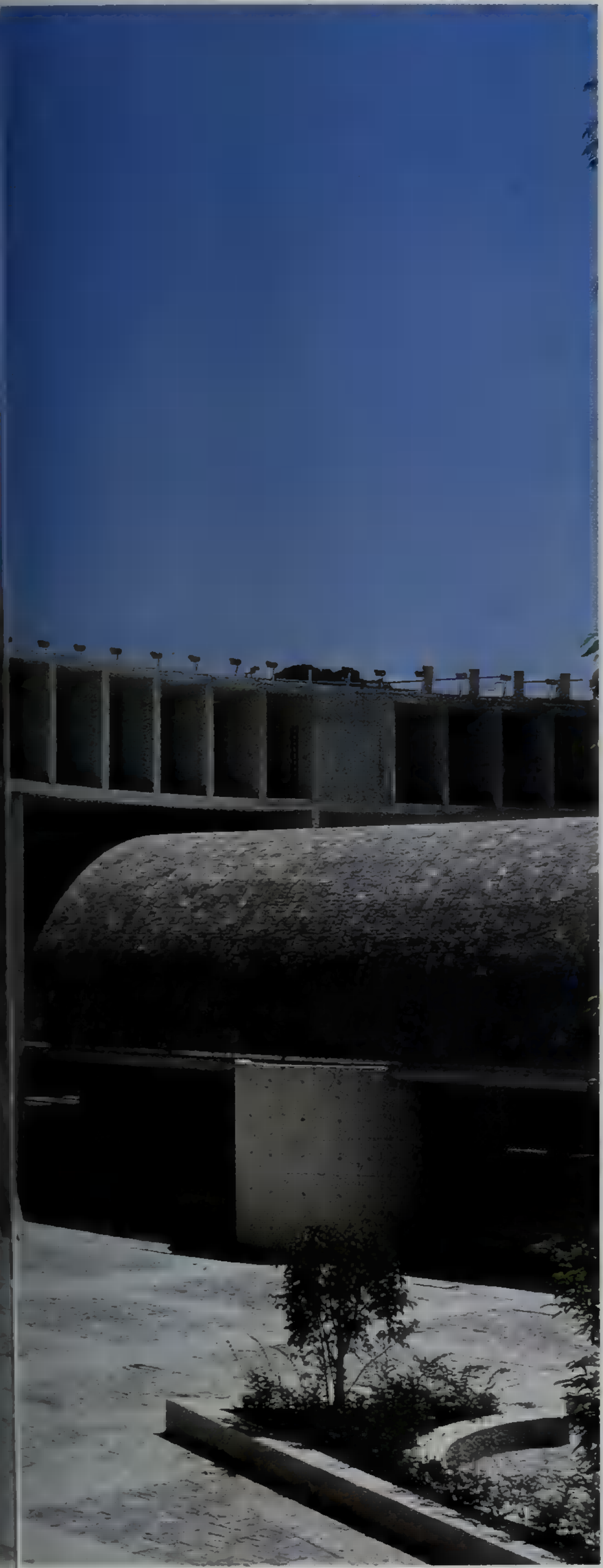
National Conservatory Of Music

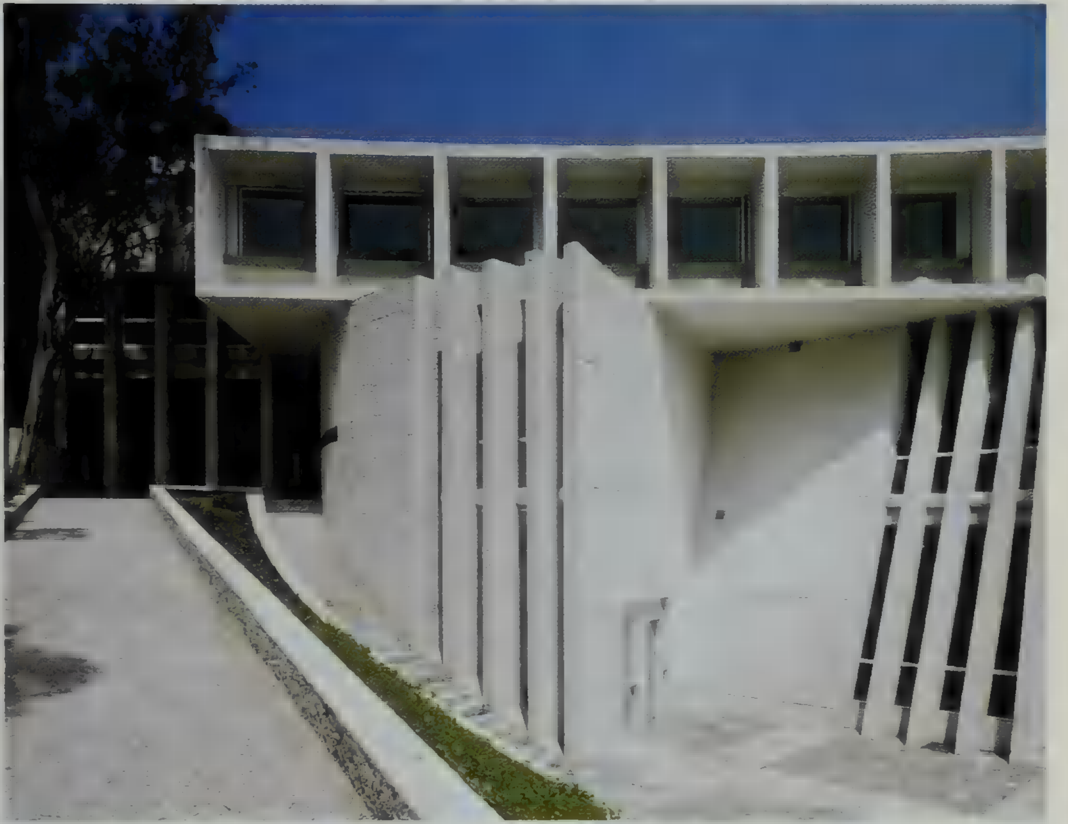
Teodoro González de León Arquitecto

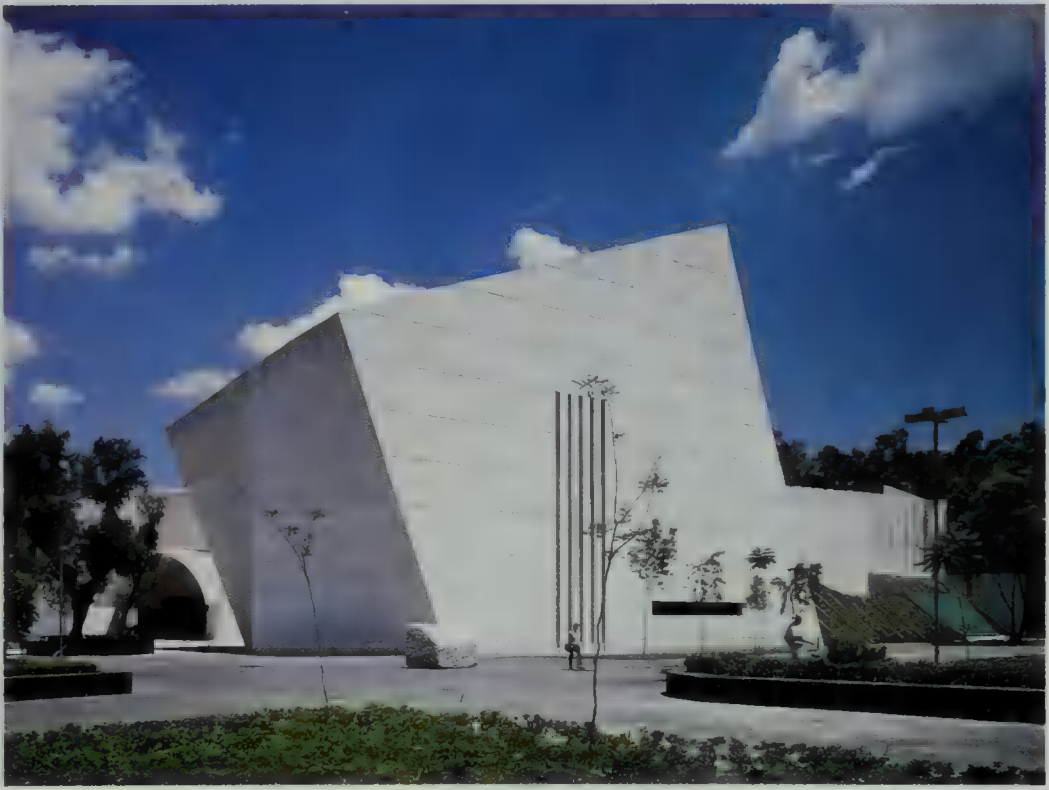




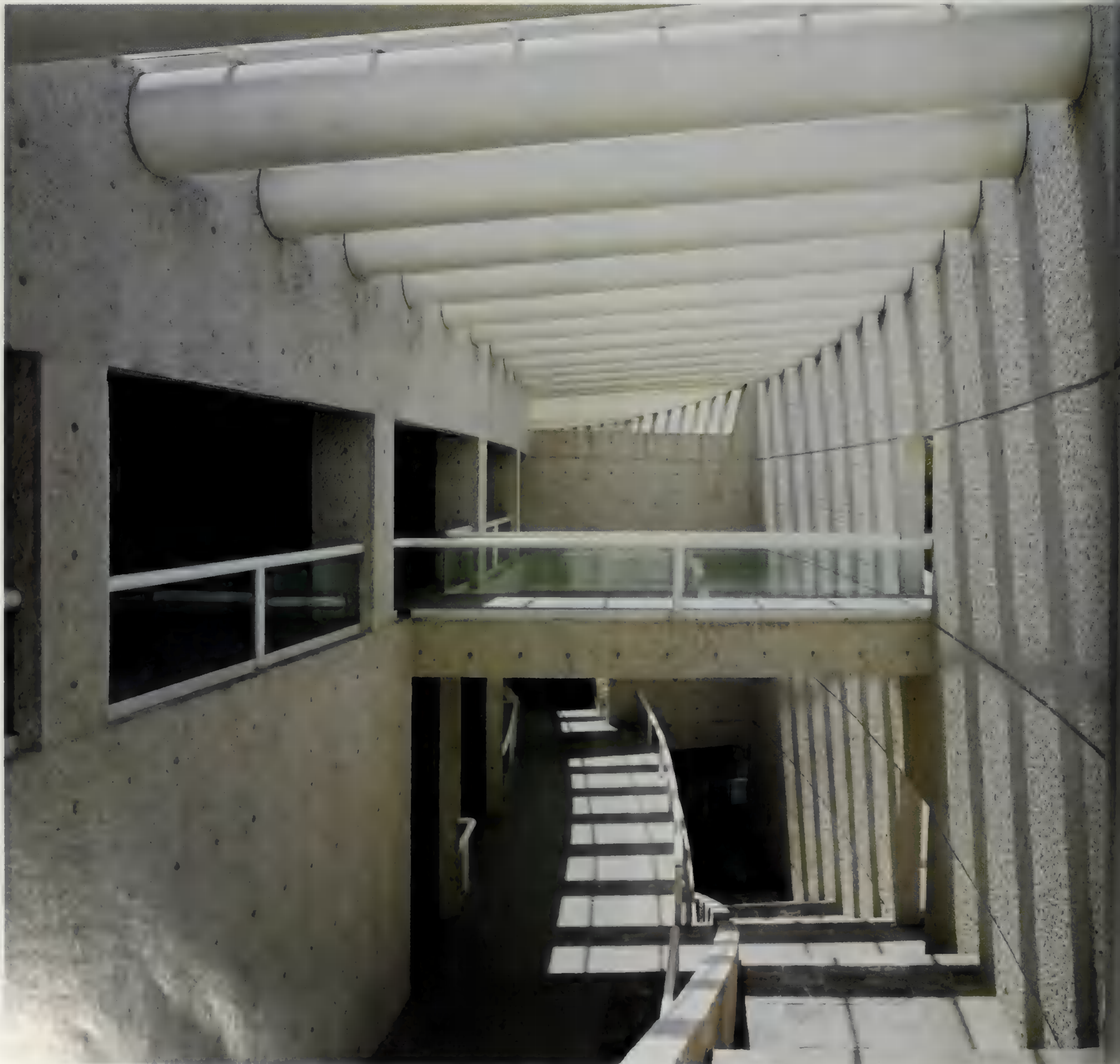
n 84,240-square-foot facility, the ational Conservatory derives uch of its visual impact from a ombination of opposing ele- ents—the solidity of its oncrete construction and the eeming instability of its irregu- r forms. "We wanted an assem- age of forms," says architect eodoro González de León, his rm sweeping past the barrel- aulted entry canopy (opposite op), the curving north facade of the school, and the angled cube of the attached concert hall (bottom right). "We wanted to exploit the plastic quality of architecture." Asked about the building's canted and angled walls (below), González de León explains that acoustics were a driving force in their design. Since nonparallel surfaces disrupt sound waves, the irregular geometry of the walls helps diffuse the sound in each room, says the architect. Of course, there are other ways of achieving the same end, but they might have been less dramatic. For all its dynamic elevations, the building's plan is remarkably straightforward: three floors of practice rooms line the curving main wing, the library/media center intersects it at the entry, and the concert hall (with its accompanying backstage and support spaces) touches it at the west



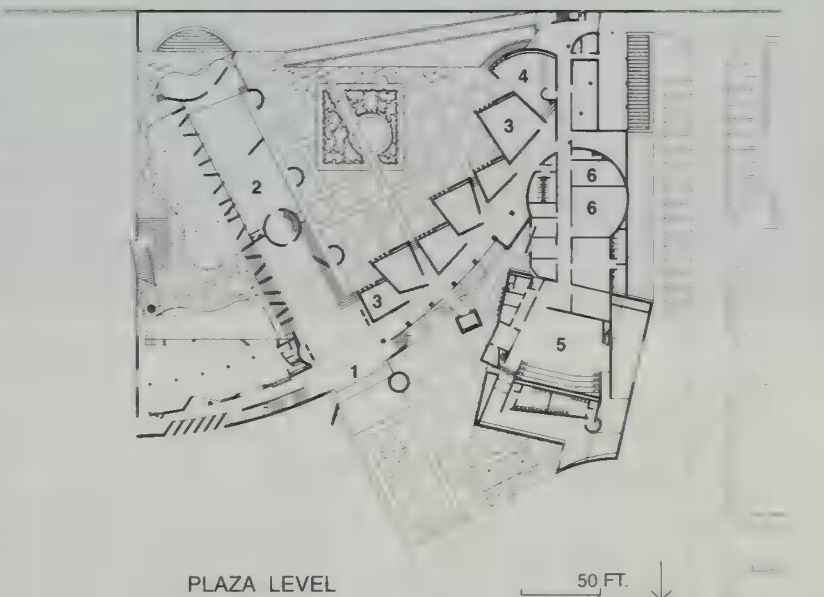




end. The structural system is also direct—all unclad concrete walls are load-bearing. The concrete is hand-chiseled and exposed on both the exterior and interior of the building. The result are highly textured walls that can take a lot of wear and tear with little maintenance. Because "we always remember great stairs," says González de León, he and his collaborator Ernesto Betancourt (a cousin of Legorreta's collaborator Max Betancourt) made sure visitors don't forget those at the National Conservatory. Skylit and paved with Santo Tomas marble from the town of Puebla, the main stairs here (below and opposite left) curve along the north edge of the building's main wing. Feeding off the stair hall and adjacent corridor are 12 group practice rooms on the first two floors and 44 individual practice rooms on the third floor—all facing south, where there is less noise. The concert hall accommodates 700 people in steeply raked seats that allow everyone to be close to the stage. Like the building as a whole, the concert hall exploits a limited palette of materials: chiselled-concrete walls, wood stage, bright-red upholstery. While the concert hall and the library are air-conditioned, the rest of the building is cooled by keeping air moving and direc sun out. The results are so good, says González de León, that a visitor once remarked, "Finally, building where the air conditioning works!" Natural ventilation and shading allow interior space to flow directly outdoors. For example, no walls or doors or panes of glass separate the main lobby (opposite right) from the spacious patio in the rear of the building. *C.A.P.*



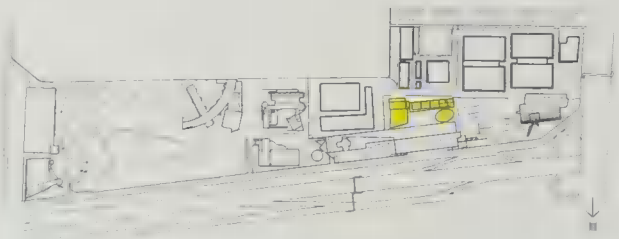
redits
ational Conservatory of Music
rchitect: *Teodoro González de eón Arquitectos—Teodoro onzález de León, principal; rnesto Betancourt, collaborator*
ngineer: *DYS (structural)*
onsultants: *Jaffe Holden carborough (acoustics); ecnoproyectos (air handling, ectric, hydraulic, sanitation)*



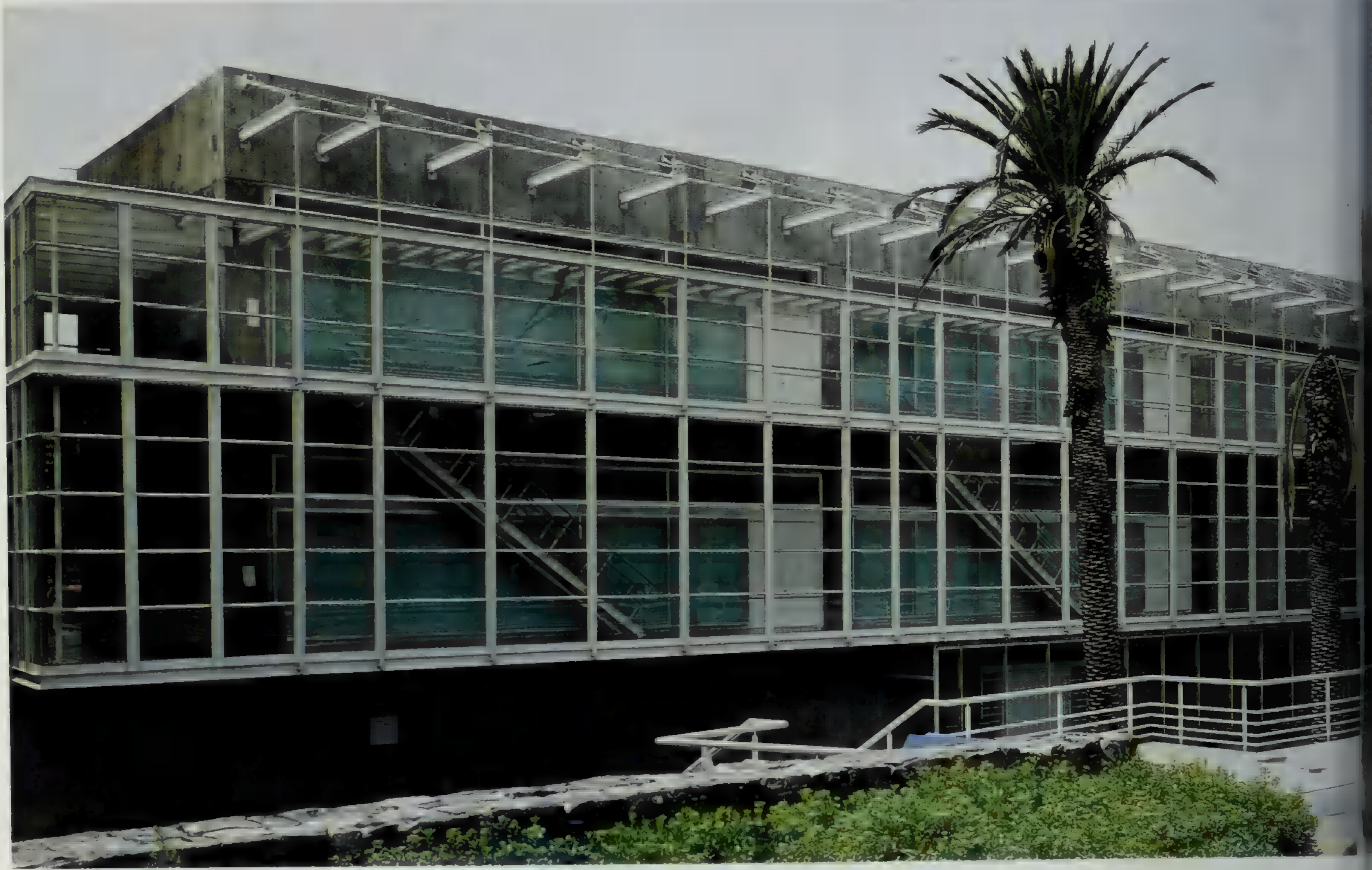
1. Lobby
2. Library
3. Rehearsal
4. Cafeteria
5. Concert hall
6. Backstage

National School of Dance

Luis-Vicente Flores Arquitecto



Facing the long Central Services Building at the narrowest part of the arts campus, the National School of Dance takes one step back and one flight down so it doesn't crowd the project's main plaza. Although the 92,000-square-foot school sits on its own terrace one level below the main plaza, its energetic forms and glass-and-steel architecture give it a strong presence at the heart of the national arts complex. To reduce the bulk of the school, architect Luis-Vicente Flores says he "decided to fragment th building into several parts." Th result is a trio of attached structures: a curved-roof theater (opposite bottom), a rectangula block with studios (left in photo below), and an elliptical building with a small black-box theater o the first floor, cafeteria on the second, and offices on the third (right in photo below). Because



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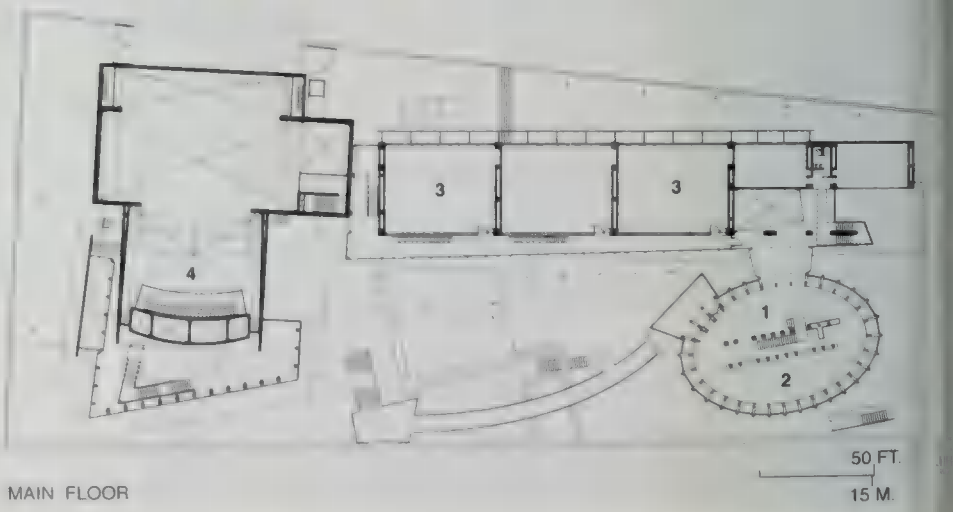
1. *Lobby*
2. *Café*
3. *Studio*
4. *Theater (below)*



MAIN FLOOR

ne was so short during devel- ment of the project, Flores ilt simple concrete boxes for ch of the three components, en designed glass-and-steel nts while the concrete was ng poured. So each building is lly two structural systems ached to each other. The nsparent portico of the studio ilding and the roof of the eater are suspended from bles, while the curtainwall of the elliptical building is supported by angled tubular-steel columns on the outside. "The buildings clearly show the construction process," says Flores. Since the buildings face north, shading for the glass facades was not critical. As with other schools on campus, this one depends mostly on circulating, rather than conditioned, air to keep everyone cool. For the inner-concrete structures, Flores designed double walls so the space between them acts as a cooling chimney and brings air into the rooms. For the glass-and-steel-enclosed spaces, the architect devised a cooling system in which air flows along the interior surface of the curtainwall. *C.A.P.*

Credits

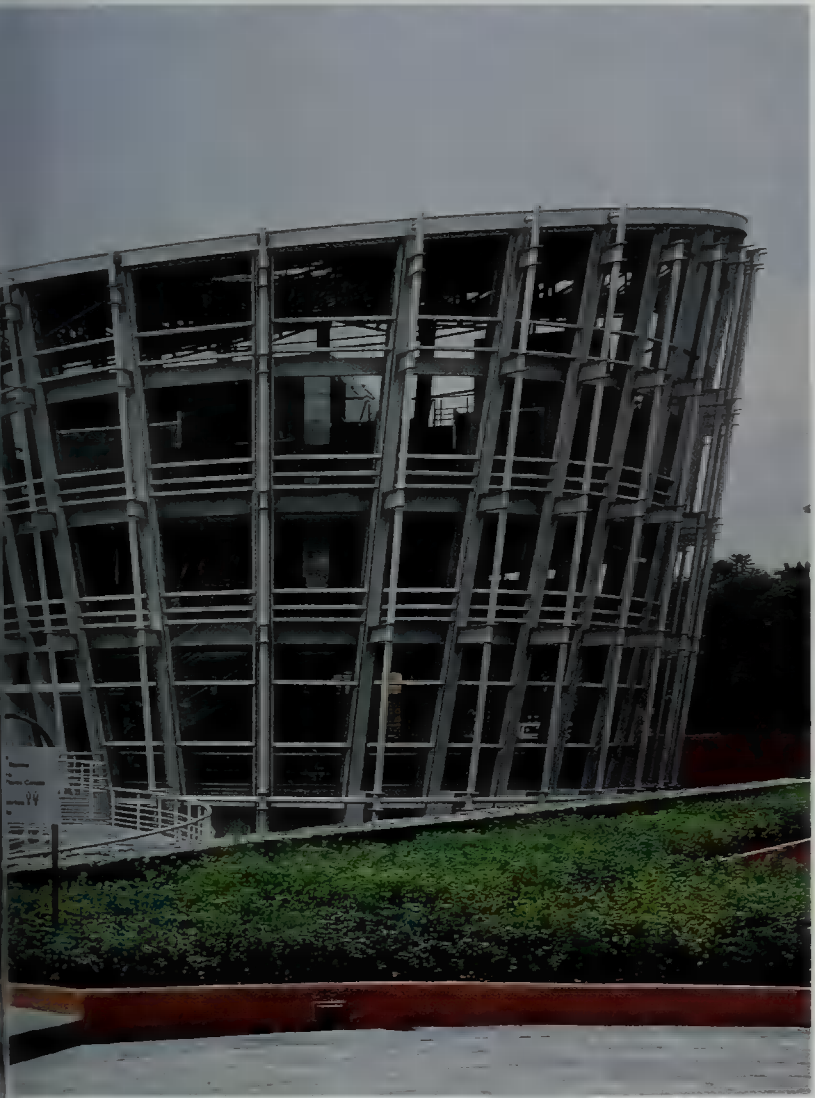
National School of Dance

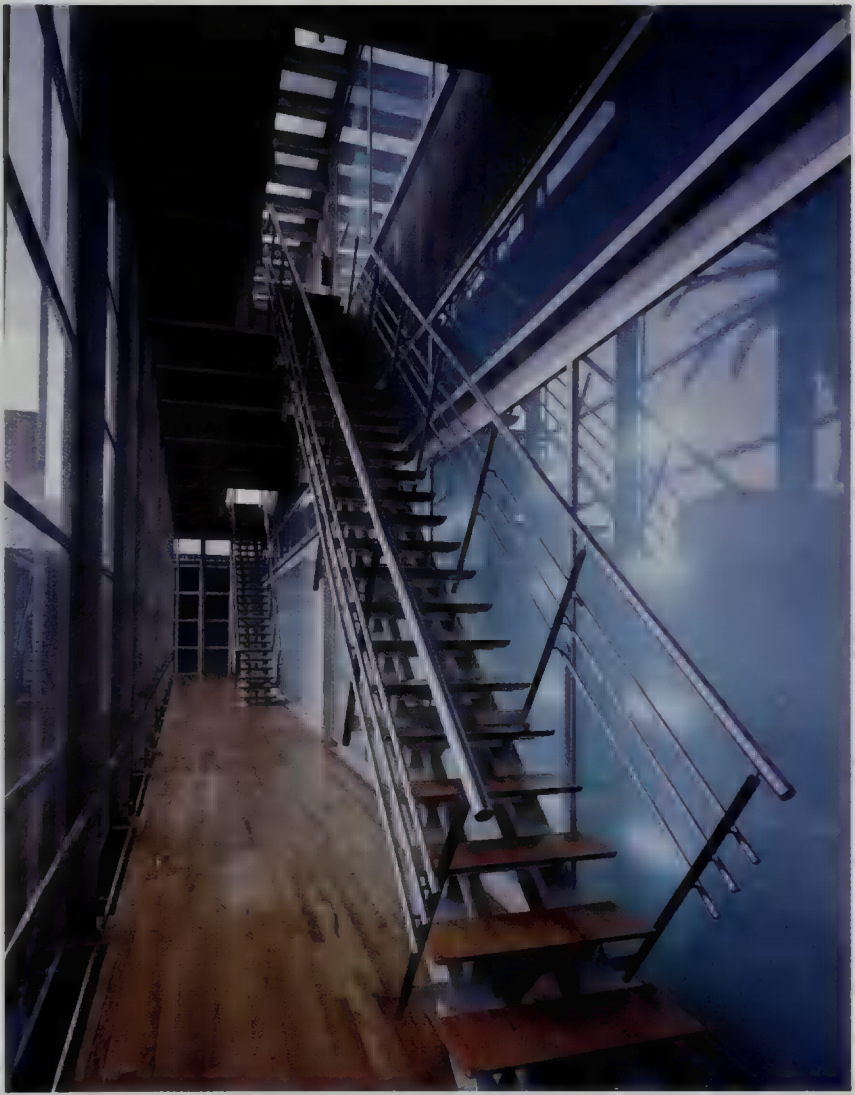
Architect: *Luis-Vicente Flores Arquitecto—Luis-Vicente Flores, principal-in-charge; Ariel Rodas, Pedro Sepulveda, Erick Rios, Lina Grij, design team*

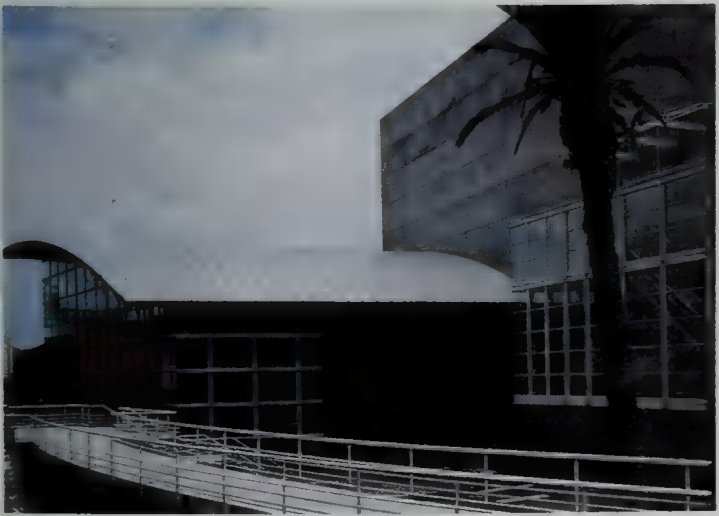
Engineers: *Pablo Peña Carrera & Associates (theater and studio buildings); Garcia Jarque & Associates (elliptical building); Ove Arup & Partners/NY (structural concepts)*

Consultants: *Christopher Jaffe (acoustics); Jules Fisher (theater mechanics)*

General Contractor: *Rioboo*



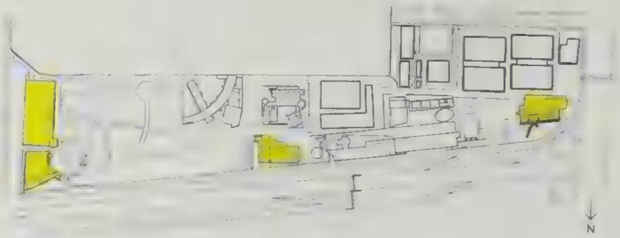




The school's 260-seat main theater is in the curved-roof structure at the east end of the site (left). In the studio building, a long interior wall is made of insulated glass panels with fluorescent lamps set behind them (above). The wall serves as the only light fixture in the long portico.

School of Dramatic Arts

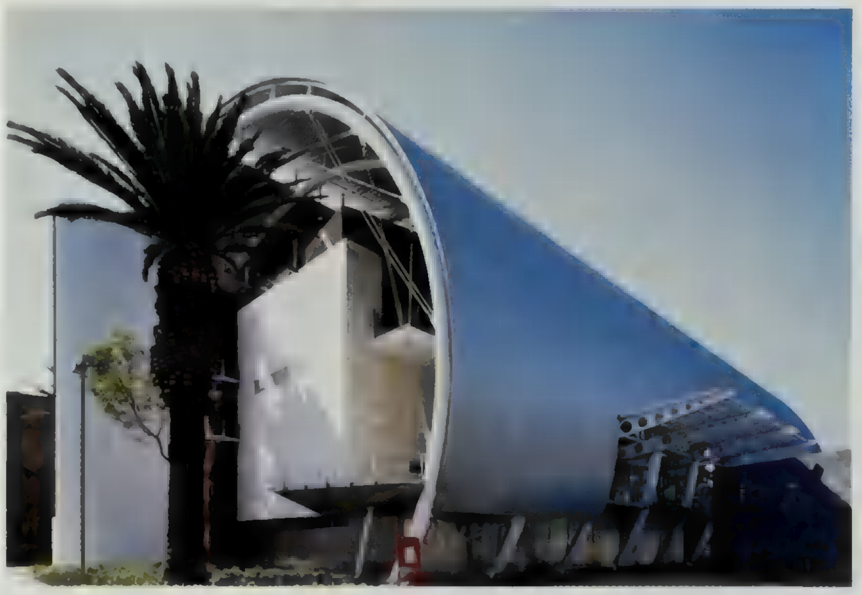
TEN Arquitectos (Taller de Enrique Norten)

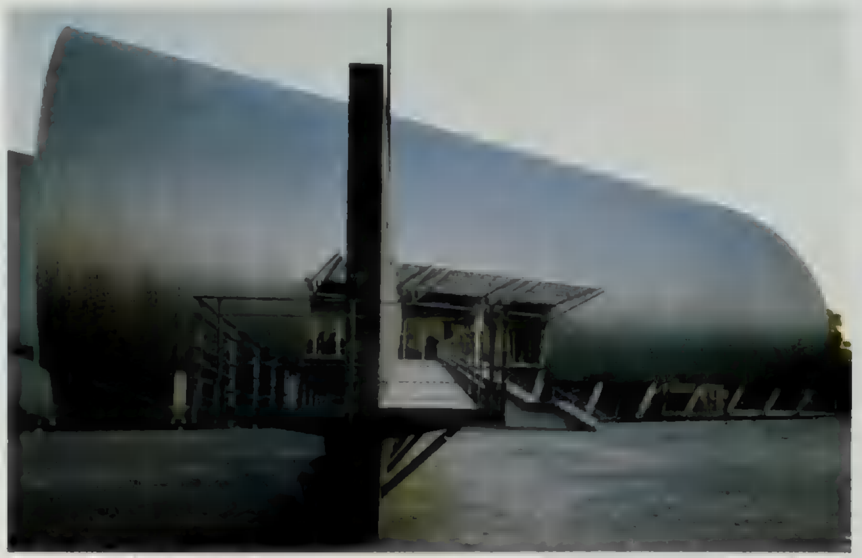


Rather than organize the various components of this school (theaters, library, classrooms, offices, etc.) into several small buildings, TEN Arquitectos brought them under one cable-tensioned bent-steel-tube roof so the project reads as one easily identifiable icon from nearby highways. Within the great space under the roof, various components appear as discrete forms. For example, a library wrapped in redwood sits above a travertine-clad theater (below). *C.A.P.*

Credits

Architect: *TEN Arquitectos (Taller de Enrique Norten)—Enrique Norten, Bernardo Gomez-Pimienta, principals; Gustavo Espitia, Héctor Gámiz, Miguel Angel Gonzalez, Armando Hashimoto, Miguel Angel Junco, Carlos Valdez, Oscar Vargas, project team*





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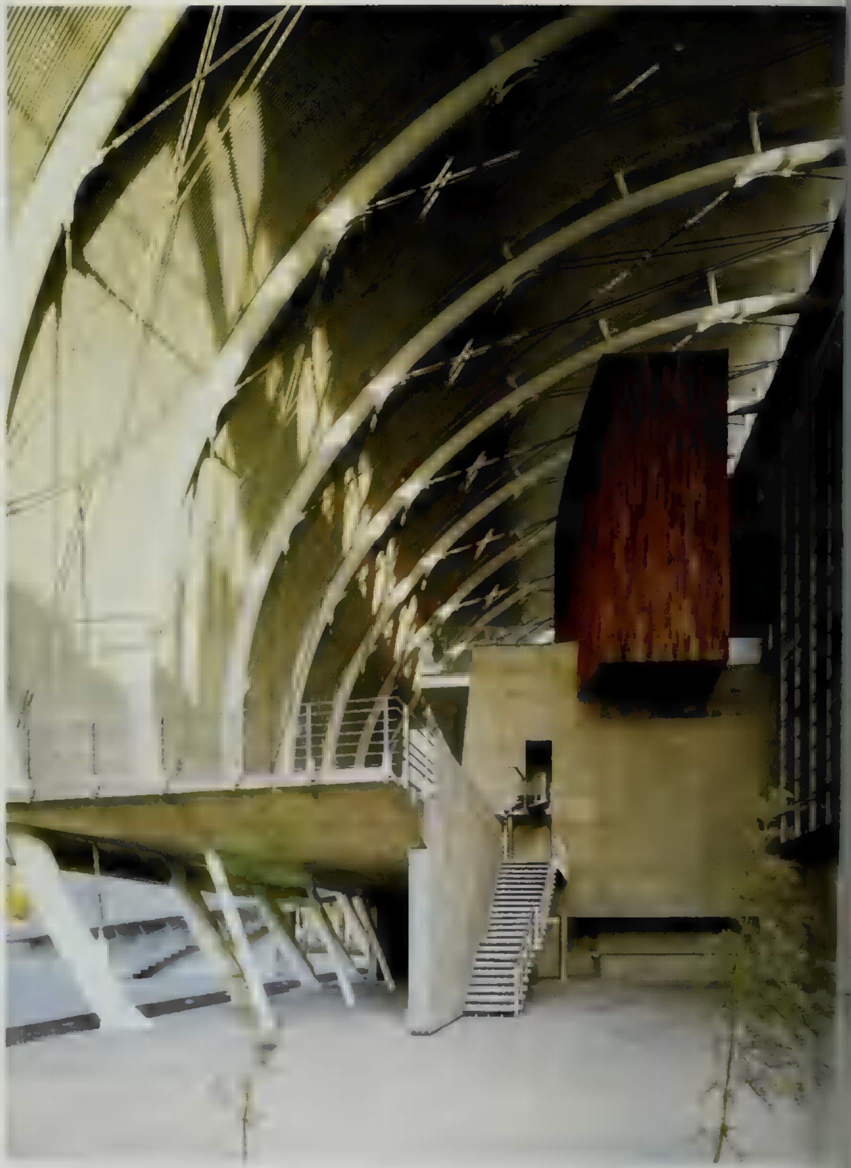
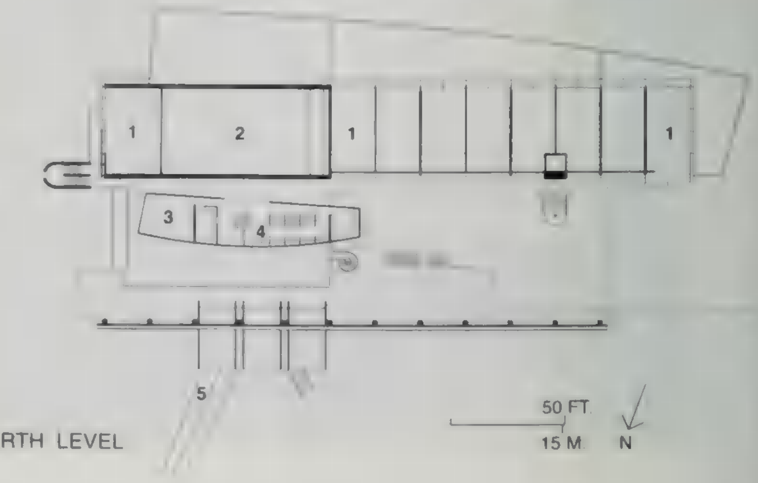


1. *Classroom (below)*
2. *Auditorium (below)*
3. *Video library*
4. *Audio library*
5. *Access ramp (below)*



FOURTH LEVEL

National Theater of the Arts

Grupo LBC Arquitectos

A concrete-framed structure encloses this 550-seat multi-use theater, while an attached steel-framed structure houses a grand foyer and "whale"-shaped mezzanine (top right). In the foyer, large glass panes are suspended from the ceiling and barely enclose the space. A columned front portico (below left) was inspired by Classical architecture and theater, says architect Alfonso Lopez Baz. Curved wood panels close to the stage and flat ones farther back move to accommodate various acoustical needs (bottom right). *C.A.P.*

Credits
Architect: *Grupo LBC Arquitectos—Alfonso Lopez Baz, Javier Calleja, principals; Humberto Ricalde, collaborator*
Interior Designers: *Claudio Gantus, Simon Hamui, Christian Gantus*

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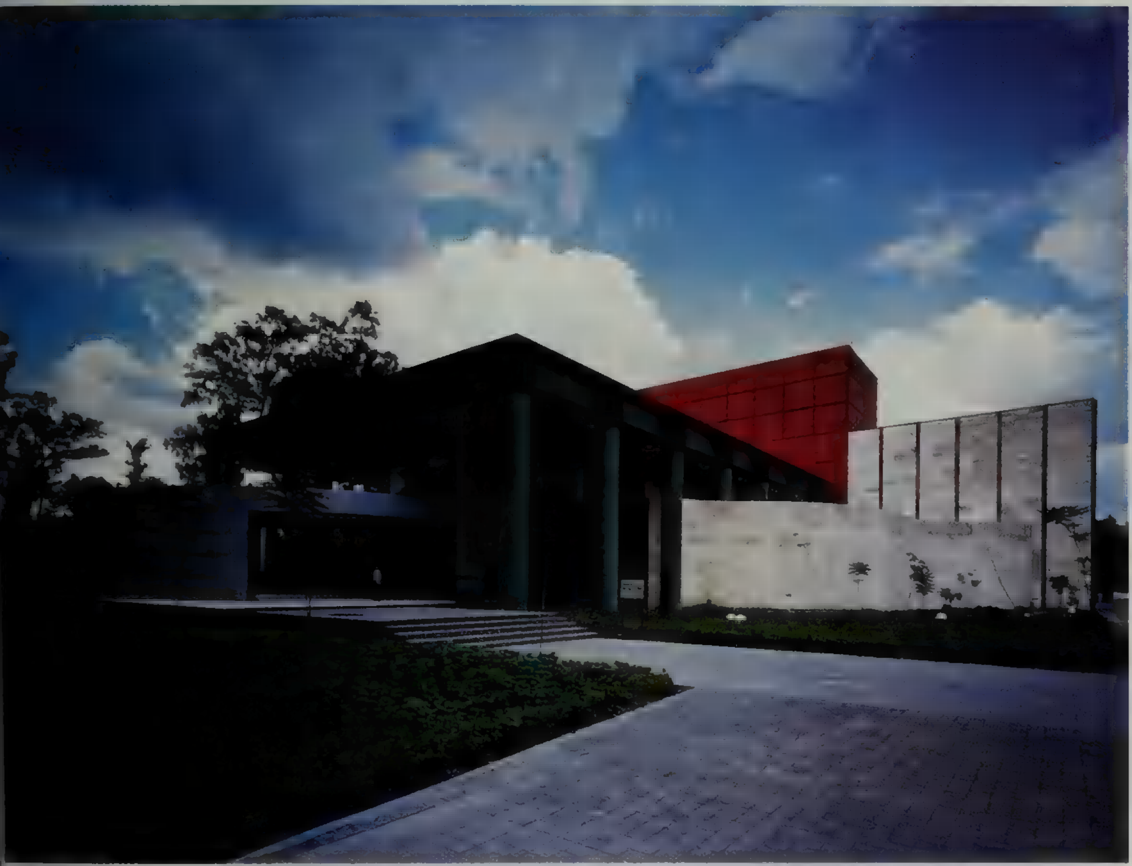
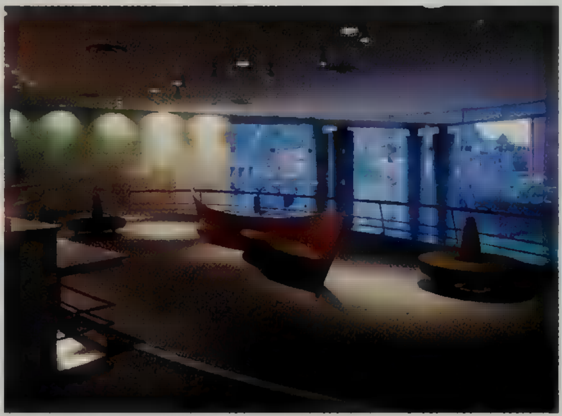
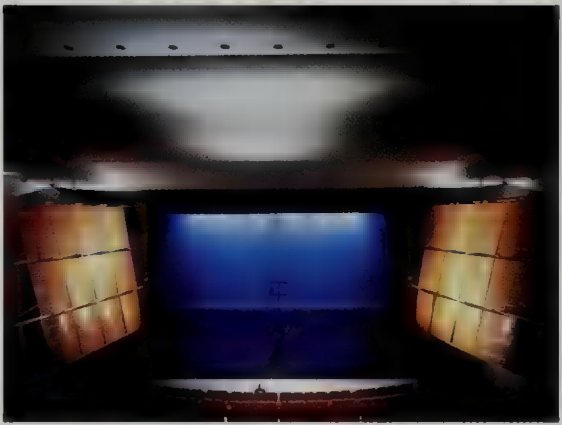




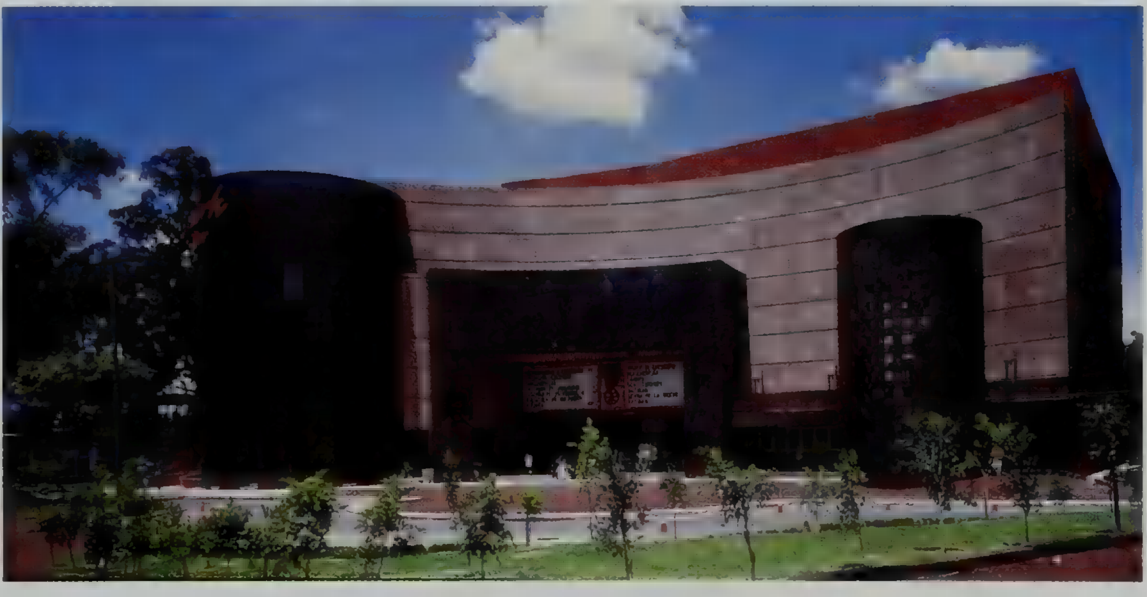


Cinema and Parking Complex

Sordo Madaleno Arquitectos

eparated from the academic
arts of the campus by a park,
his multiplex cinema and adja-
ent parking structure anchor
hat is planned as a commercial
ector. On the boards are designs
r a 1,000-seat live theater and a
0,000-square-foot shopping
enter. The concrete-framed
nema building (right) is clad
ith Cor-Ten steel and local
ueretaro stone. *C.A.P.*

redits
rchitect: *Sordo Madaleno*
rquitectos—Jorge Isaías
uerrero, principal-in-charge



© Sebastian Saldivar

History Lesson

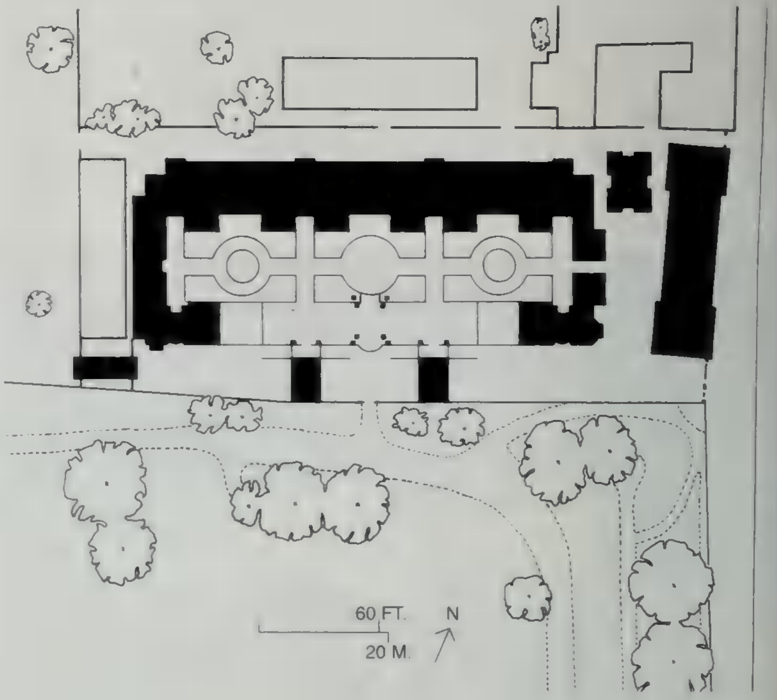
Garden Quadrangle
St. John's College, Oxford, Engla
MacCormac Jamieson Prichard
Architects

The conventional models for 20th-century additions to ancient colleges have been reinterpretations of the Medieval, often ecclesiastical, vernacular: courtyards, cloisters, monasteries. It is rare for a single formal influence to dominate. At MacCormac Jamieson Prichard's Garden Quadrangle student accommodation at St. John's College, Oxford, however, the central reference is to Hardwick Hall, in Derbyshire. This conceit arises from architect Richard MacCormac's wish to engage with the magnificent Fellows' (faculty members) Garden that adjoins the site. Ideas of the English country house and garden of various periods inform a number of aspects of the design.

Hardwick Hall was built to the design of Robert Smythson in the last decade of the 16th century, some 40 years after the foundation of St. John's. Its most spectacular feature is a lively facade of glazed square bays. "Hardwick Hall/more glass than wall" was a much quoted rhyme in praise of the architecture. MacCormac's building has a still more frenzied facade, with six square bays and three kitchen belvederes squeezed in between them. The best student rooms crown these six bays and are like light-filled temples complete with glazed pediments. They overlook three more free-standing temple-like features—two short towers of fellows' rooms flanking a central summer house—as well as a new formal garden and the more picturesque Fellows' garden, the whole ensemble amounting to a compressed version of the Arcadian landscape of a country estate (two cylindrical lanterns for the lower-level conference rooms even resemble attenuated temples of the winds). The conventional organization of a country house such as Hardwick—a main stair and interconnecting rooms on each floor—has been rejected, however. Unlike at Hardwick, the verticality of the towers gives logical expression in the traditional Oxbridge arrangement of student rooms off a multiplicity of staircases.

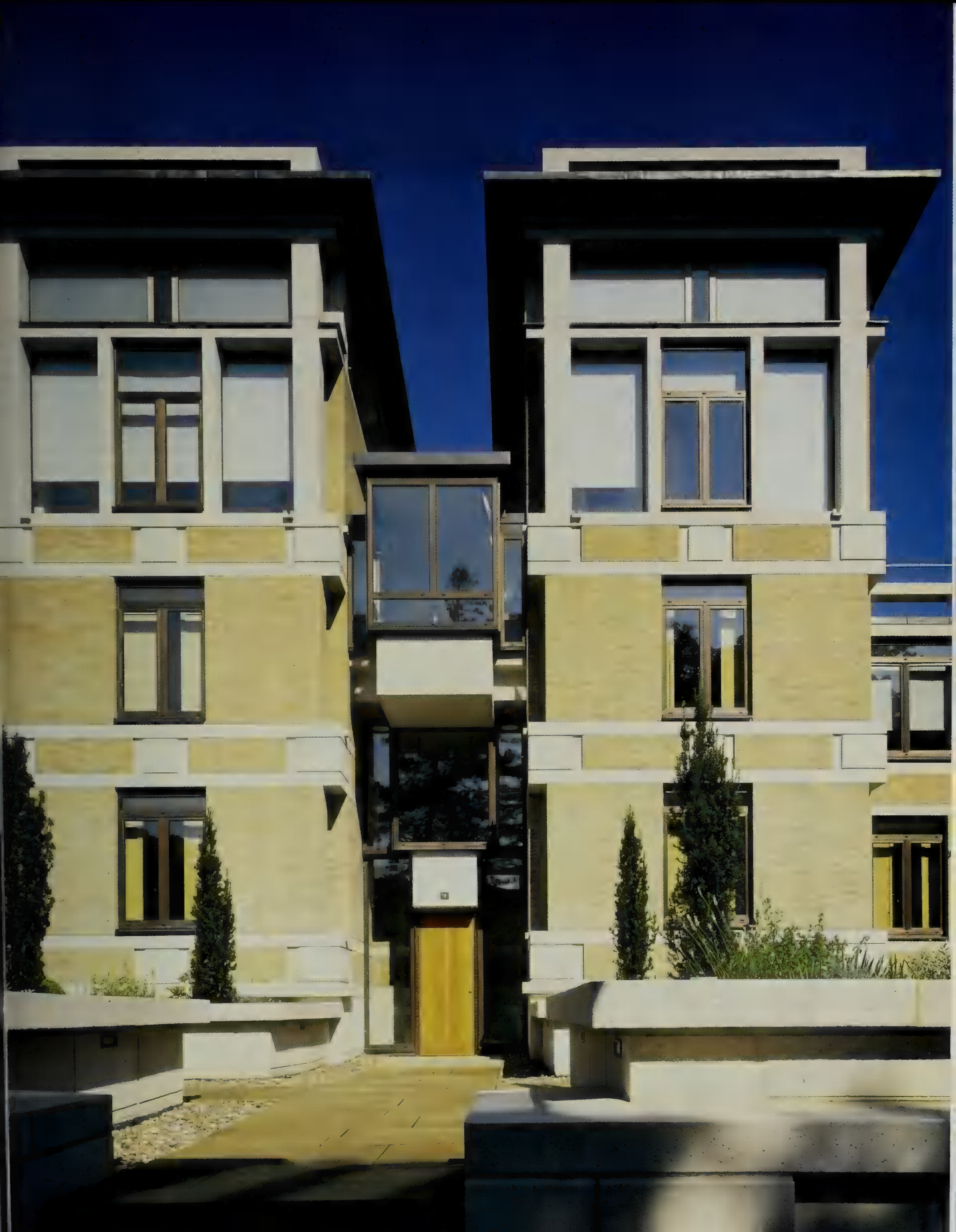
The lower level represents an attractive solution to what must have been one of the main puzzles in the program: how to conceal a money-making conference center without destroying the college atmosphere. This facility is all but hidden from the causal passerby, yet conference-goers should have no cause to complain of being treated as second-class citizens, and they will doubtless go about their meetings oblivious to the happy symbolism in this level's being given over to base commerce, while the students' thoughts soar skyward above.

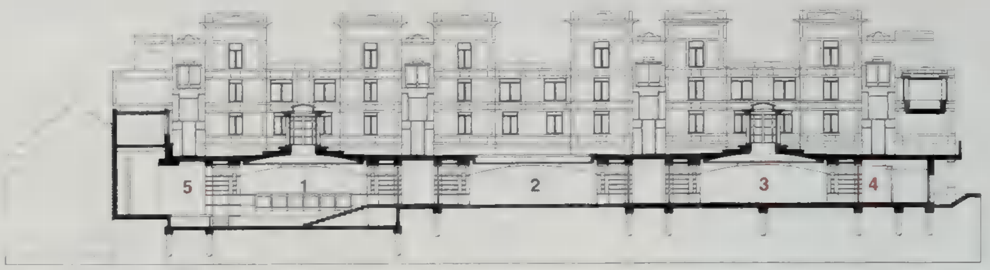
MacCormac invokes in his work the British architectural tradition of "maverick Classicism" of John Vanbrugh, John Soane, and the noted Scottish architect, Alexander "Greek" Thompson. He might have added Hawksmoor, Lutyens, James Stirling, and Terry Farrell. This is a British thread, sure enough, but perhaps also a rather British evasion of Modernity. After all, the French have made a rather good line in Neoclassical *jeux d'esprit*. But this has not made their architecture subservient to that tradition, as some British architecture appears to be. If the French reconcile the Classical and the Modern to occasionally produce the bombastic, architects like MacCormac humanize the Classical by reducing it in scale and giving great attention to details. For some, the result is, in a word of Hardwick's rather than time, euphuistic: elegant but given to symmetry, antithesis, alliteration, and other stylistic devices. *Hugh Aldersey-Williams*



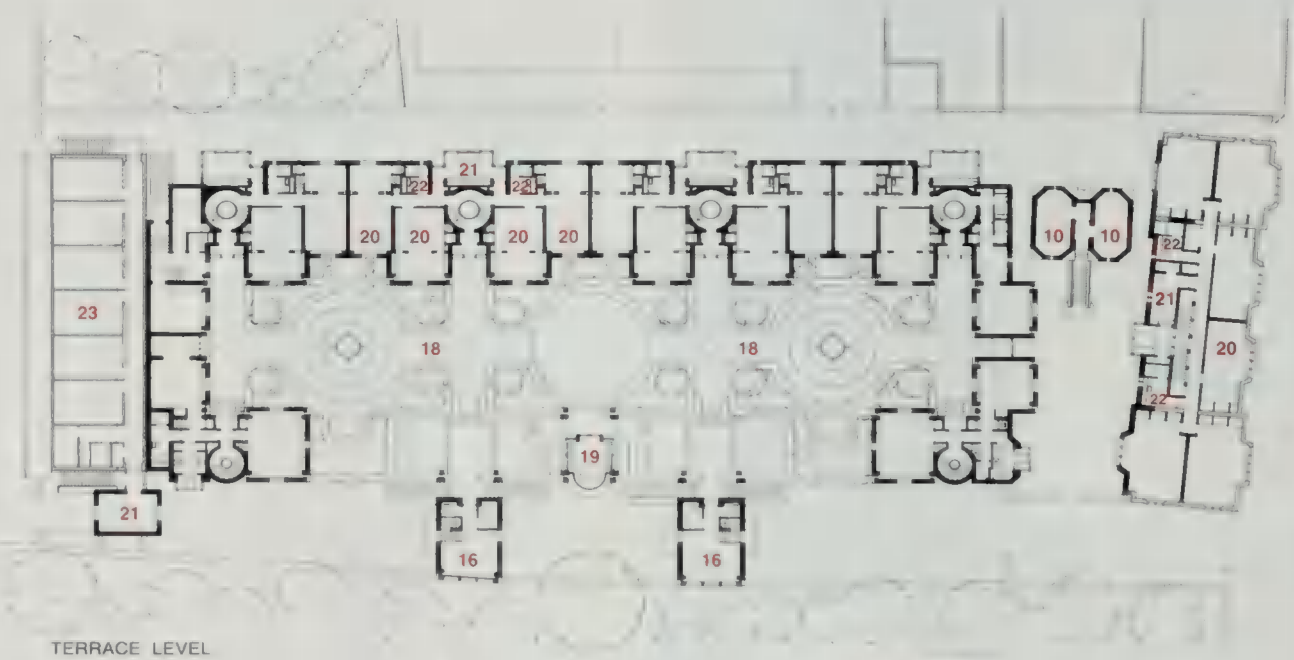
Three pairs of towers, such as those opposite, form the building's Hardwick Hall-like facad This compelling silhouette makes a fitting addition to Oxford's "dreaming spires." Th best rooms are temple-shaped glazed boxes at the tops of the towers. A shared kitchen has a scenic overlook, and the windo seat on the second floor and the windowed entrance are stacked below to form a glazed slot between the twin towers.

© *Rob Fraser photo*





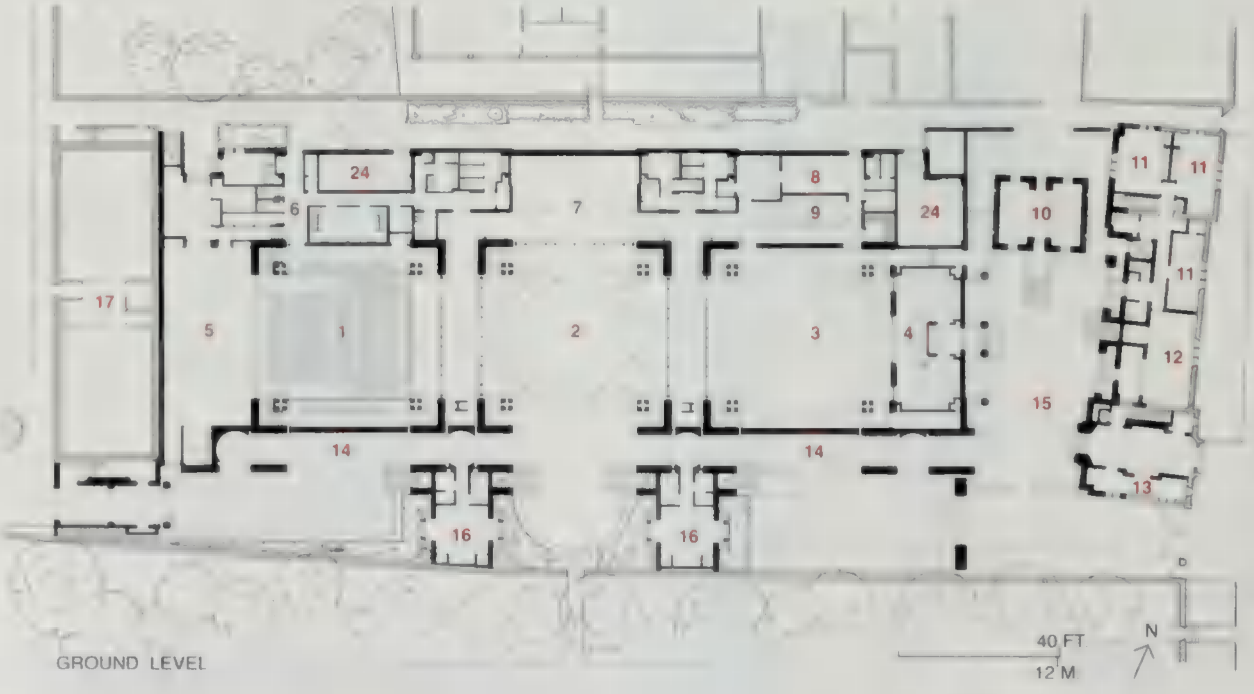
LONGITUDINAL SECTION



TERRACE LEVEL

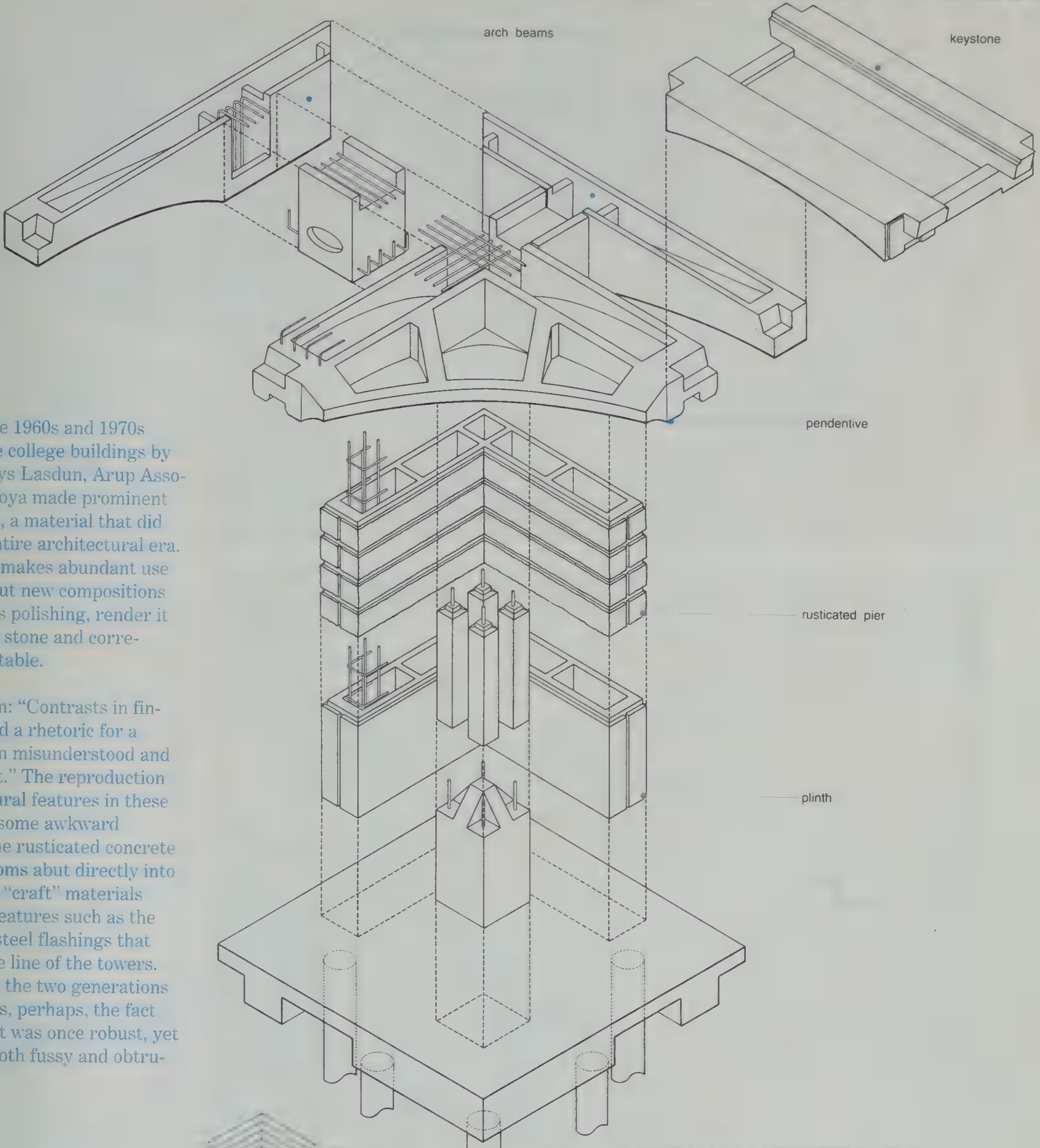
While it is the formalism of Ma Cormac Jamieson Prichard's design that impresses both in plan and in elevation, the exper ence of the building itself is less oppressive, offering vistas that are almost picturesque. Project architect Jeremy Estop believes his firm wins its generous shar of college commissions precisel because it promises such explic references to the past.

But however grand the historic allusions, nothing can disguise the fact that those commissions must fit smaller, more awkwar sites as colleges seek to fit more onto existing property. The surprisingly recent requirement that rooms have bathroom facil ties en suite *(a concession to visitors, not students) puts further constraints on architects.*



GROUND LEVEL

1. *Auditorium*
2. *Atrium*
3. *Dining room*
4. *Museum*
5. *Stage*
6. *Backstage*
7. *Foyer*
8. *Kitchen*
9. *Serving line*
10. *Music room*
11. *Teaching room*
12. *Computer room*
13. *Porter's lodge*
14. *Cloister*
15. *Courtyard*
16. *Fellows' rooms*
17. *Squash courts*
18. *Terrace*
19. *Belvedere*
20. *Study/bedroom*
21. *Kitchen*
22. *Shower room*
23. *Existing study/bedrooms*
24. *Plant room*

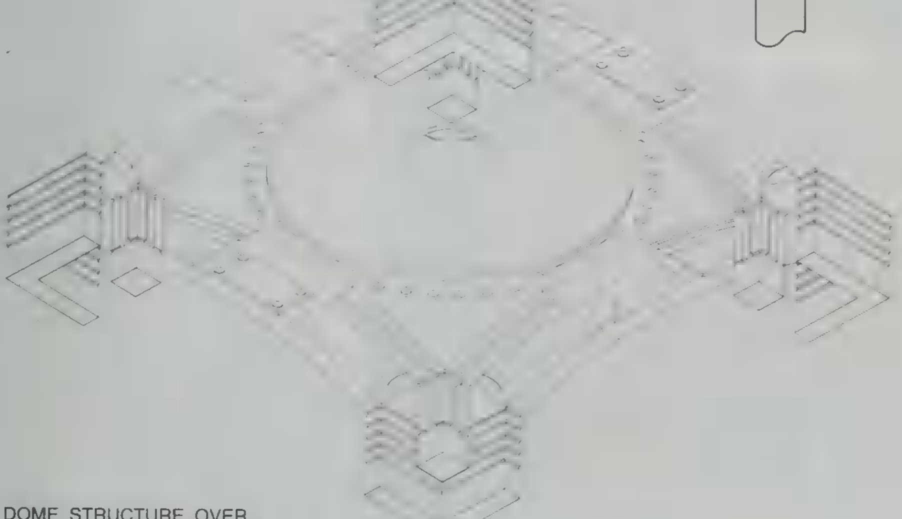


ASSEMBLY OF PRECAST CONCRETE UNITS
GROUND FLOOR

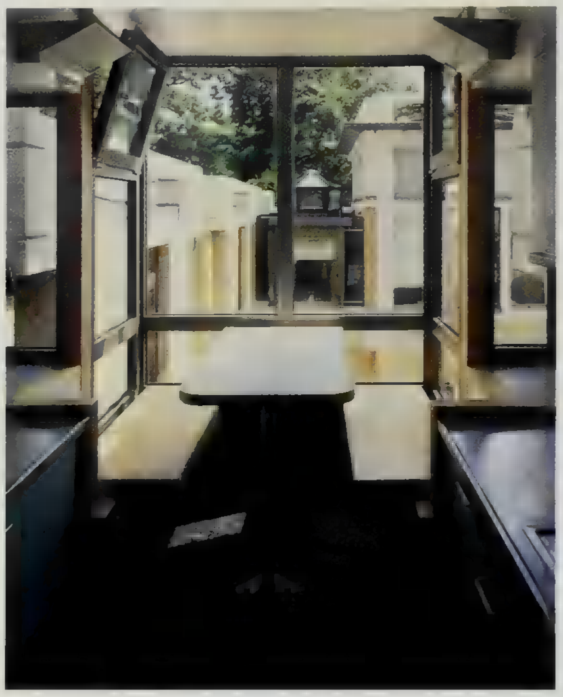
Jp Close

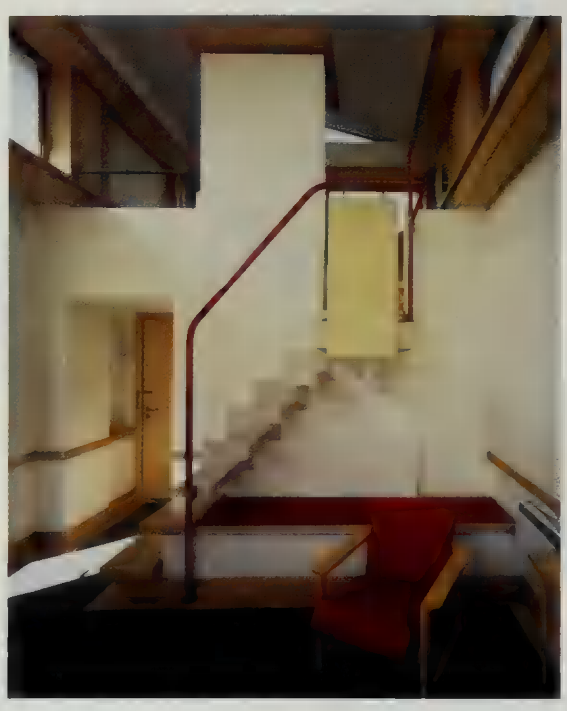
'raft and concrete. The 1960s and 1970s
;eneration of Oxbridge college buildings by
rchitects such as Denys Lasdun, Arup Asso-
iates, and Powell & Moya made prominent
se of precast concrete, a material that did
nuch to discredit an entire architectural era.
IacCormac's building makes abundant use
f the same material, but new compositions
nd treatments, such as polishing, render it
loser in appearance to stone and corre-
pondingly more acceptable.

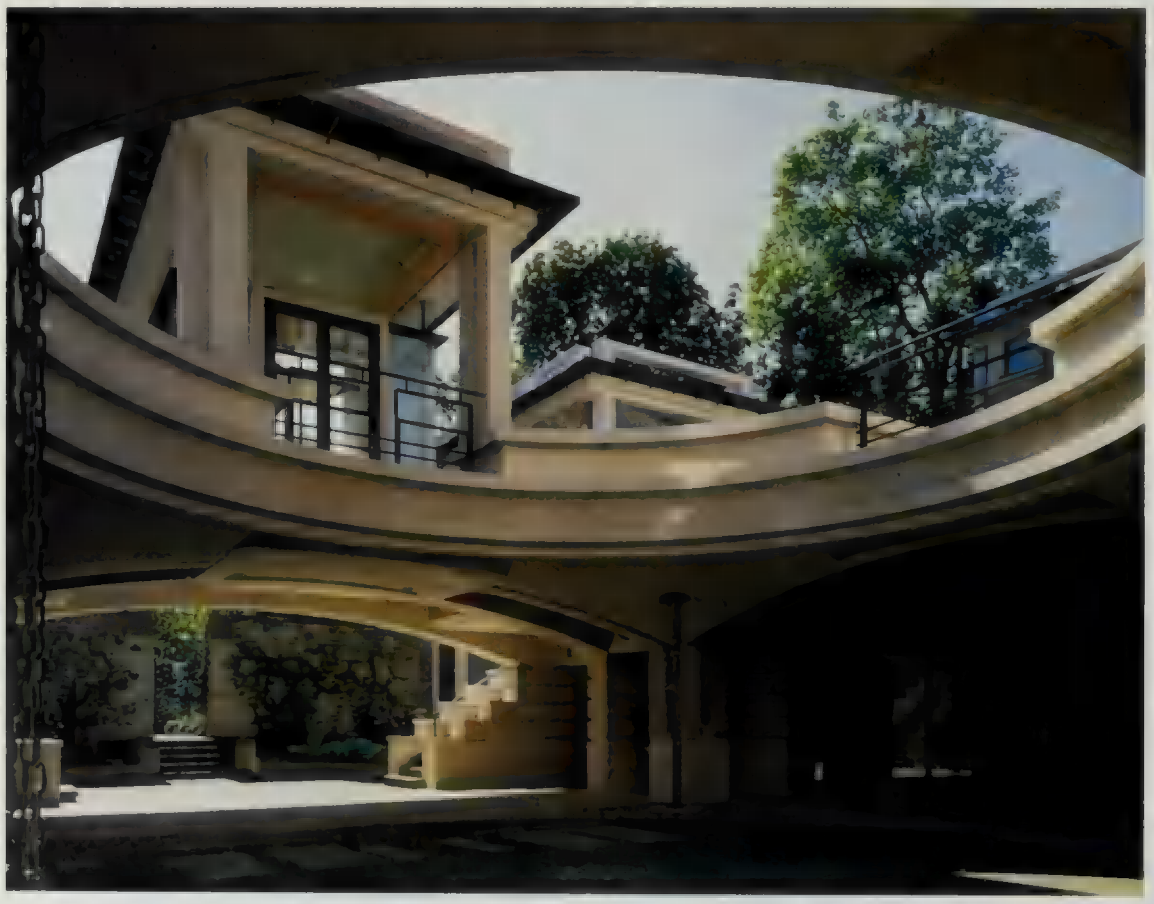
IacCormac has written: "Contrasts in fin-
h...are intended to find a rhetoric for a
aterial which has been misunderstood and
ndervalued in the past." The reproduction
f traditional architectural features in these
ew materials leads to some awkward
etails, such as when the rusticated concrete
iers of the meeting rooms abut directly into
azing cut to fit. Other "craft" materials
roduce some elegant features such as the
ad-covered stainless-steel flashings that
roject from the cornice line of the towers.
ne difference between the two generations
f college architecture is, perhaps, the fact
at where craft content was once robust, yet
nderstated, it is now both fussy and obtru-
ve.

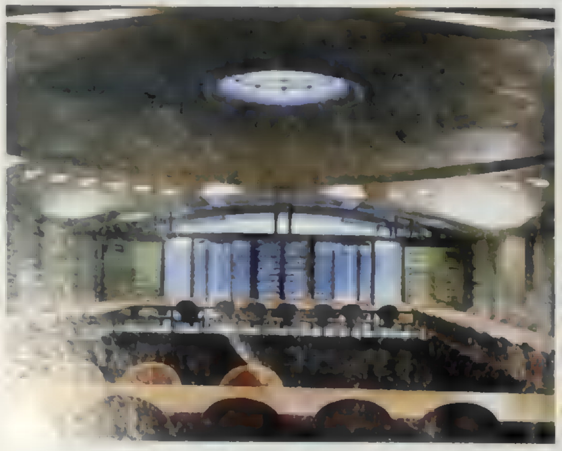


DOME STRUCTURE OVER
AUDITORIUM AND DINING ROOM

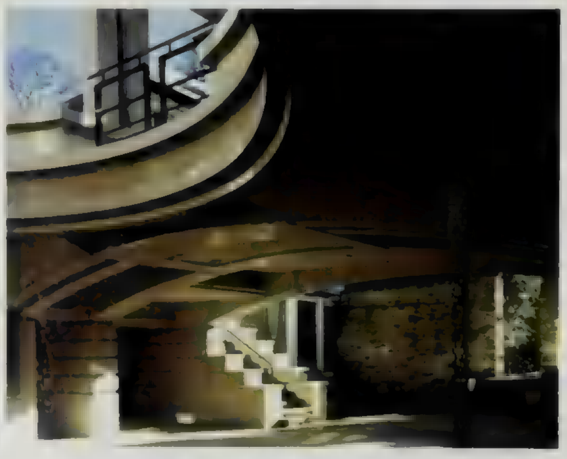








© Peter Cook photo



A second-floor window seat (far left top), has a marvellous view of the gardens below. The apartments are compact but carefully detailed (left).

On the lower level, the mood is somber, with bays of low-slung arches somewhat like the undercroft of a Palladian villa. They articulate three large spaces—a theater and a refectory/meeting room (bottom left), both of whic open onto a central courtyard (middle left and lower left). The chamber interiors are like jewel boxes, rich in color and detail, such as the reference to Soane i the lights over each wall. The gently-domed "lid" provides a rare glimpse of the contemporary use of fresco. Separate fro the main building lies a two-story music-practice suite (opposite), heavily rusticated a if it were a Medieval fortified gateway—it is the folly without which no grand English garde would be complete.

Credits
Garden Quadrangle
St. John's College
Oxford, England
Architect: *MacCormac Jamieson Prichard—Richard MacCormac, Peter Jamieson, partners; Jeremy Estop, project architect; Stephen Coomber, Ni Dodd, Toby Johnson, Reiner Langheil, Andy Lanham, Elspeth Latimer, Julian Lewis, Peter Liddell, Andrew Llowarc John Paul, and Christian Uhl, project team*
Consultants: *Price and Myers (structural); The SVM Partnership (services); Northcroft, Neighbor, and Nicholson (quantities)*
General Contractor: *Try Construction Ltd.*

From Courthouse to Prison

Courthouse Design: Growth Field Forms A Sure Market

By Tom Ichniowski

"There are a lot of local courts built between 1920 and 1960 that are now dysfunctional and in need of replacement," says David Hobstetter, a principal with Kaplan McLaughlin Diaz, San Francisco. For architects, that means "an immense amount of work coming up over the next 10-to-20 years," predicts Don Dwore, partner with Spillis Candela & Partners, Coral Gables, Florida. F. W. Dodge reports contract value for non-federal courthouses, capitols, and city hall projects hit $1.3 billion in 1995, up from $996 million the year before.

The state and local court market is enticing, but it poses challenges. Unlike the federal program, there is a lack of standardization. Sometimes local decision-makers aren't familiar with courts' special design requirements or the latest developments. And with the work so decentralized, it can be difficult to identify prospective projects.

Still, the needs are clear. Once-sleepy rural counties "are now turning into these booming bedroom communities," says Gary P. Haney, director of architecture in Skidmore, Owings & Merrill's Washington office. Drugs, drunk-driving, and domestic disputes fill local dockets. And with more people jailed, the need for courts and space for probation departments, district attorneys, and public defenders expands.

There are big differences between federal and non-federal court projects. At the local level, courtrooms and support spaces tend to be smaller. For example, Dwore calculates it takes 9,000 to 9,500 square feet to support one federal district judge, including a 2,400 square-foot courtroom with 14- to 18-foot ceilings. Local judges need 6,000 to 6,300 square feet, including 1,400- to 1,800-square-foot courtrooms with 12- to 14-foot ceilings. But *local* doesn't mean *little*. For example, Kallmann McKinnell & Wood Architects is designing a $74-million, 400,000-square-foot Suffolk County Courthouse in Boston. It's just one project in a $360-million Massachusetts court renovation and construction program. Another $583 million is before the legislature.

Tom Ichniowski is the Washington, D. C., bureau chief for Engineering News-Record.

Tighter controls and looser standards

For state courts, "first cost is usually more tightly controlled" says Thomas G. Pinkerton, justice-architecture director of Hansen Lind Meyer's Charlotte, North Carolina, office. And federal court planners usually add more space for future expansion. Initially, this is for judicial-related offices, but is designed for eventual conversion to courtrooms. To hold costs down, judges share courtrooms. Dwore also sees a trend towards court-sharing by multiple jurisdictions. His firm is on a design-build team for a three-city justice center in Georgia.

Architects on federal courts use the design guide issued by the Administrative Office of the U. S. Courts. Local officials may have lot of experience with other types of construction, but they may need a new courthouse once in a generation. In some instances, "They need expert advice they may not know they need," says SOM's Haney. Although the National Center for State Courts, Williamsburg, Virginia, does issue a design guide, jurisdictions' specifications vary. But HLM's Pinkerton sees the lack of standardization as a plus: It allows more flexibility of design for a given use. Gyo Obata, design principal of Hellmuth, Obata & Kassabaum, notes, "Federal security guideline are very strict. There must be three means of circulation" to separate public, judicial staff, and prisoners." But, many states are tightening security too.

A local desire to be open to the community can work against security notes Theodore Prudon, a principal with Swanke Hayden Connell, New York City. He recalls that the local police wanted such security features as bulletproof materials and panic buttons for one project. But the judges decided against them. They didn't want to be that separated from their constituents.

New courts incorporate new technology. Some use video conferencing for arraignments, says Don Hardenbergh, president of Court Works a Williamsburg consultant. Another development: monitors that allow jurors to view evidence. HLM's Pinkerton also says some facilities will have machines similar to automatic bank tellers inside their lobbies, which people can use to file motions or look up cases. Some courts, he says, are permitting personal electronic codes instead of handwritten signatures. Judges revere tradition. But particularly at the state level, Pinkerton says, "Technology is almost taking them by storm now."

The State of Alabama Judicial Building (following pages) carries through local expectations of justice's dignity. *But, despite reasonable costs, the building may appear too extravagant for many jurisdictions' tastes.*

*The phenomenal growth in jail and prison
onstruction reflects the dynamic social, political,
nd economic forces of the 1990s," says Barbara
adel (below). The same can be said of courts, but Tom Ichniowski sees far less growth (opposite page). The two authors explore the opportunities and problems for architects who seek and design such projects. C. K. H.*

rison Design: Elusive pportunities In a Big Field

Barbara A. Nadel

uring crime is and will remain a major growth industry, especially
we continue to lock people up and throw away the key," says archi-
ct Jon Gomberg with the Federal Bureau of Prisons. From rural
orth Carolina to Minnesota's flatlands, prison populations are
sing, while new maximum-security facilities house increasingly
der and sicker inmates. As courts pass longer sentences, the need
additional beds in prisons and county jails will grow.

e numbers tell the story. In June 1995, American federal and state
isons housed over 1.1 million inmates, up by 90,000, or 9 percent,
om 1994. That doesn't include the 500,000 people detained or await-
trial in county jails. According to the National Institute of
rrections, 40 to 60 new state prisons go on-line annually, with over
0,000 new prison beds planned in 74 new facilities and 78 renova-
ns in 1994, at a cost of over $6 billion. The 1994 Federal Crime Bill
cludes $8.5 billion for new prison construction. Construction costs
new maximum-security facilities range from $80,000 per bed in
ral areas to a high of $125,000 in New York City.

phasis on low cost

he 1994 Crime Bill was not designed to be the architects' relief
," Marlene Beckman, U. S. Department of Justice special counsel,
d last year's AIA Prison Construction Summit. Architects are now
ly one of many groups in this booming, highly competitive, special-
d market. They benefit when new projects are bid competitively by
ious levels of government. Agencies with large in-house design
d construction staffs, however, prefer to carry out their own pro-
ts, reducing private sector opportunities. Some private companies,
ntracted by governments, use a small in-house staff to design, build
l operate standardized facilities across the country, eliminating
al design and construction opportunities. Others, like Nashville-
sed Corrections Corporation of America, hire local consultants.

*rbara A. Nadel is principal of Barbara Nadel Architect in New
k City, and specializes in programming, planning, and design of
rrectional, health, and institutional facilities.*

In any case, correctional departments are seeking fast, cheap ways to add more beds and relieve overcrowding. "Our clientele doesn't appreciate a normal environment," says Gomberg. "We're building more austere federal prisons, using clean sight lines, durable materials, and electronic security." Double bunking, for example, requires minimal capital investment, while doubling bed capacity. Standardized, prefabricated-steel or concrete components and especially cells, designed and installed by outside manufacturers, are another low-cost route to enlarging capacity.

"County correctional facilities offer more opportunities for architects than state prisons," says New York architect and corrections consultant Curtiss Pulitzer. "County jails are often downtown, near the courthouse, requiring unique urban design solutions." At the state level, adapting cookie-cutter designs to specific sites offers fees of 1 to 1.5 percent, although fees for facilities designed from scratch are higher. Using a prototypical kit-of-parts has been a trend since the mid-1980s in California, Tennessee, Pennsylvania, and Florida.

Specialized needs are most promising for architects:

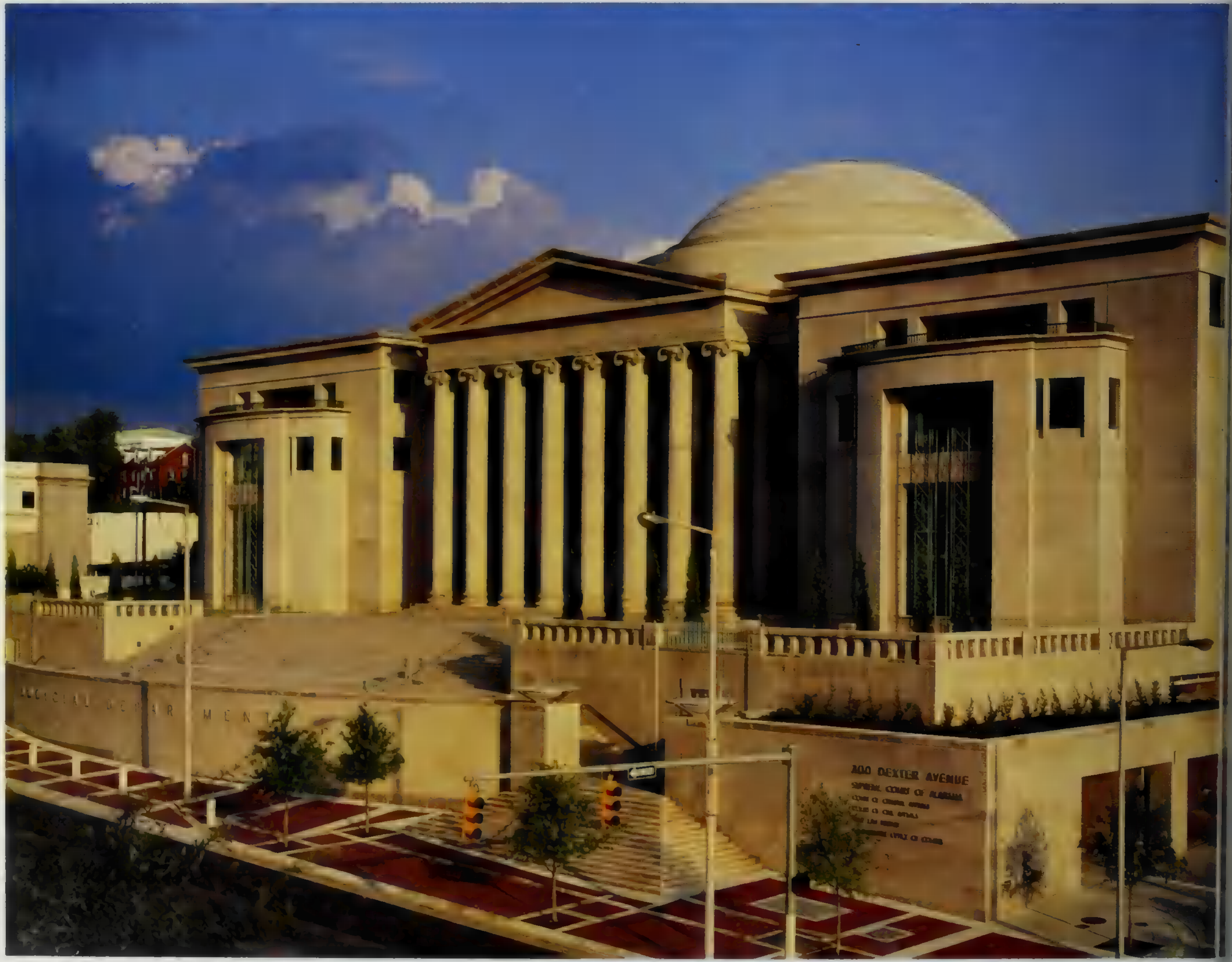
- Mental-health facilities—especially substance-abuse centers—are being built by the Federal Bureau of Prisons, among others.
- New regional prison hospitals operated by correctional departments bring health facilities closer to prisons and reduce transportation costs, security risks, and officer overtime.
- Recycling buildings can answer these needs and more. The Federal Bureau of Prisons is developing regional medical-detention centers on closed military bases. At Fort Devons, Massachusetts, an $85-million conversion project includes renovation of a 30-year-old Army hospital to a prison hospital, new psychiatric hospital, and staff housing.
- Geriatric-care facilities result from longer sentences and a larger, graying inmate population. Prison nursing homes and hospices for this typically nonviolent group may be viable alternative uses for surplus community hospitals.
- The percentage of women behind bars is also rising rapidly, exceeding 6 percent of the total state inmate population. Most women are nonviolent offenders with shorter sentences because they are more frequently convicted of drug and property offenses than violent crimes. But as more women enter the correctional system, additional medical and mental-health facilities will be needed to address the needs of pregnancy, substance abuse, and nursery care. ■

The Kent County Correctional Facility (following pages) embodies many of the operational economies that administrators expect. *But its high-profile design is a special case because its conspicuous location is on a gateway artery leading into Grand Rapids, Michigan.*

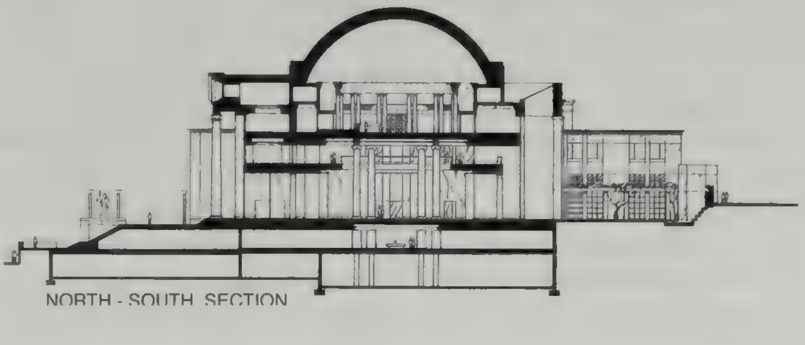
The Alabama Judicial Building

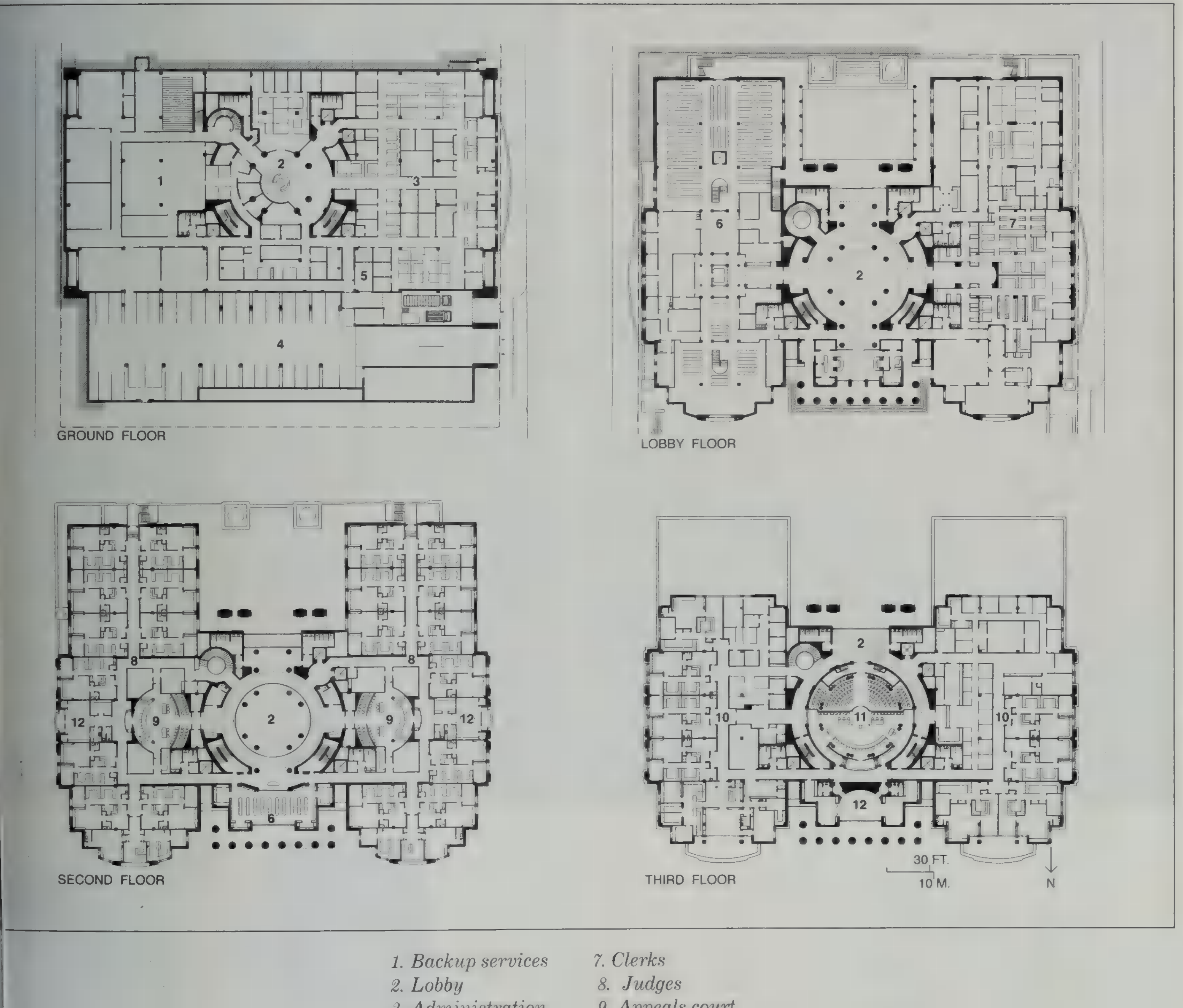
Montgomery, Alabama
Barganier Davis Sims Architects Associated
Gresham Smith & Partners, Associated Architects

© Gary Knight & Associates photos



r the highest court in
abama, architects Barganier
vis Sims, together with
esham Smith & Partners, met
al expectations of a dignified
dicial edifice on a surprisingly
odest budget, *and* produced a
oroughly modern building at
e same time. The $33-million,
1,000-square-foot, poured-con-
ete structure is clad in granite
d Indiana limestone. The
ntral portion takes as its precedent John Russell Pope's Jefferson Memorial. Its 45-foot-high solid-stone columns were shipped in seven-foot sections so heavy that a flatbed could carry only two at a time. The flanking wings, however, are designed in a contemporary vernacular that manages to blend with the classic into an integrated whole. Inside, the central organizing element is an imaginary 100-foot-diameter sphere centered under the dome.


NORTH - SOUTH SECTION



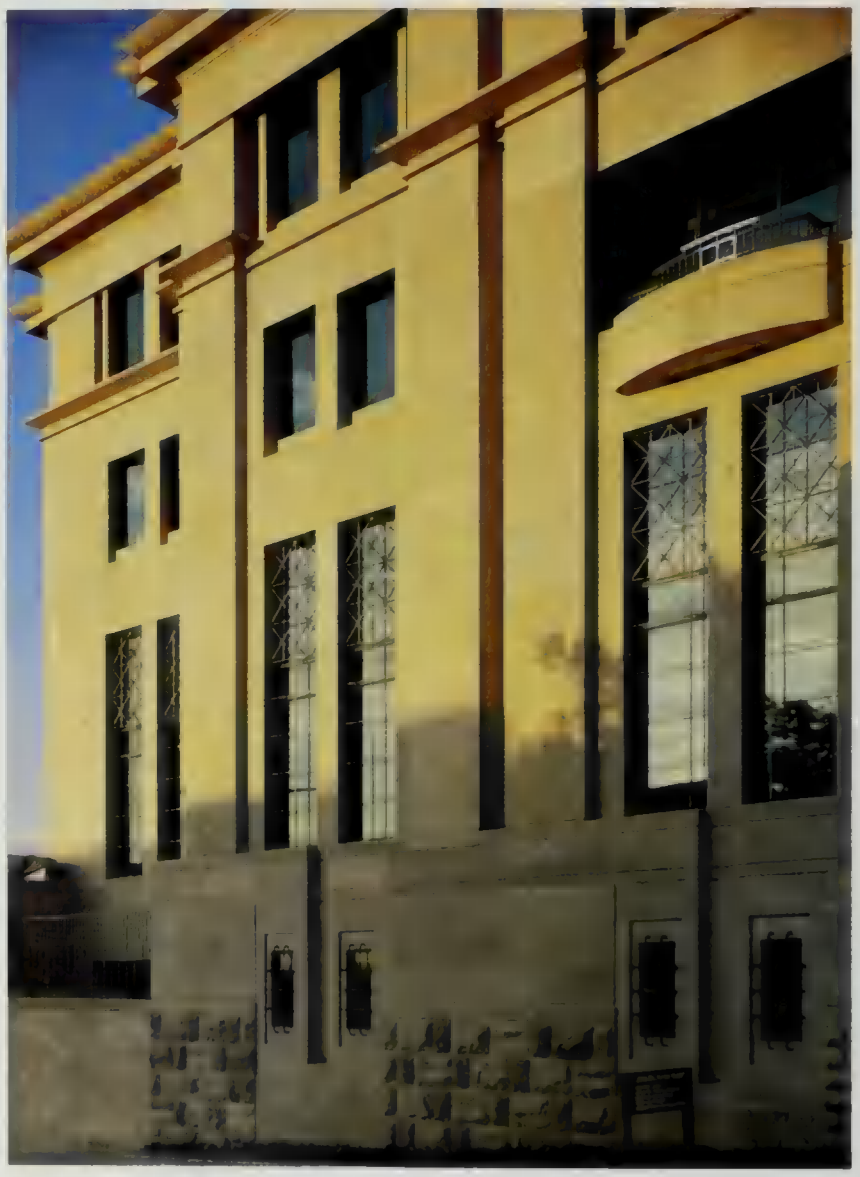
1. *Backup services*
2. *Lobby*
3. *Administration*
4. *Parking*
5. *Security*
6. *Library*
7. *Clerks*
8. *Judges*
9. *Appeals court*
10. *Justices*
11. *Supreme Court*
12. *Conference*

The top half contains the third-floor supreme court chamber (opposite) and the bottom half defines the rotunda below, the main space accessible to the general public (section and plans, previous page). Two other courtrooms on the second floor are for civil and criminal appeals, although the majority of cases is decided in deliberation among the 10 justices of the supreme court or the 22 judges of the appellate courts. Accordingly, the architects have made the conference rooms (opposite, top) as comfortable as possible for prolonged periods of use. The lobby floor contains the state law library (opposite, bottom) and offices for the appeals clerks.

One particular challenge was absorbing the echo of the domed supreme-court chamber. Smooth-surfaced, perforated-metal panels backed by acoustical fabric similar to those used in planetariums solved the problem. The building contains the latest in electronic security controls including an elaborate video/key-card system that monitors all doors from a central location.
Charles K. Hoyt

Credits
Alabama Judicial Building
Montgomery, Alabama

Associated Architects:
Barganier Davis Sims Architects Associated—James Barganier, Dart Davis, Lee Sims, principals-in-charge; Lee Sims, design principal; Jeffrey Owens, Ray Williams, associate designers; Tom Tillman, Jules Thornton, construction admini trators;
Gresham Smith & Partners—Robert Gower, president; Charle Alexander, principal-in-charge;

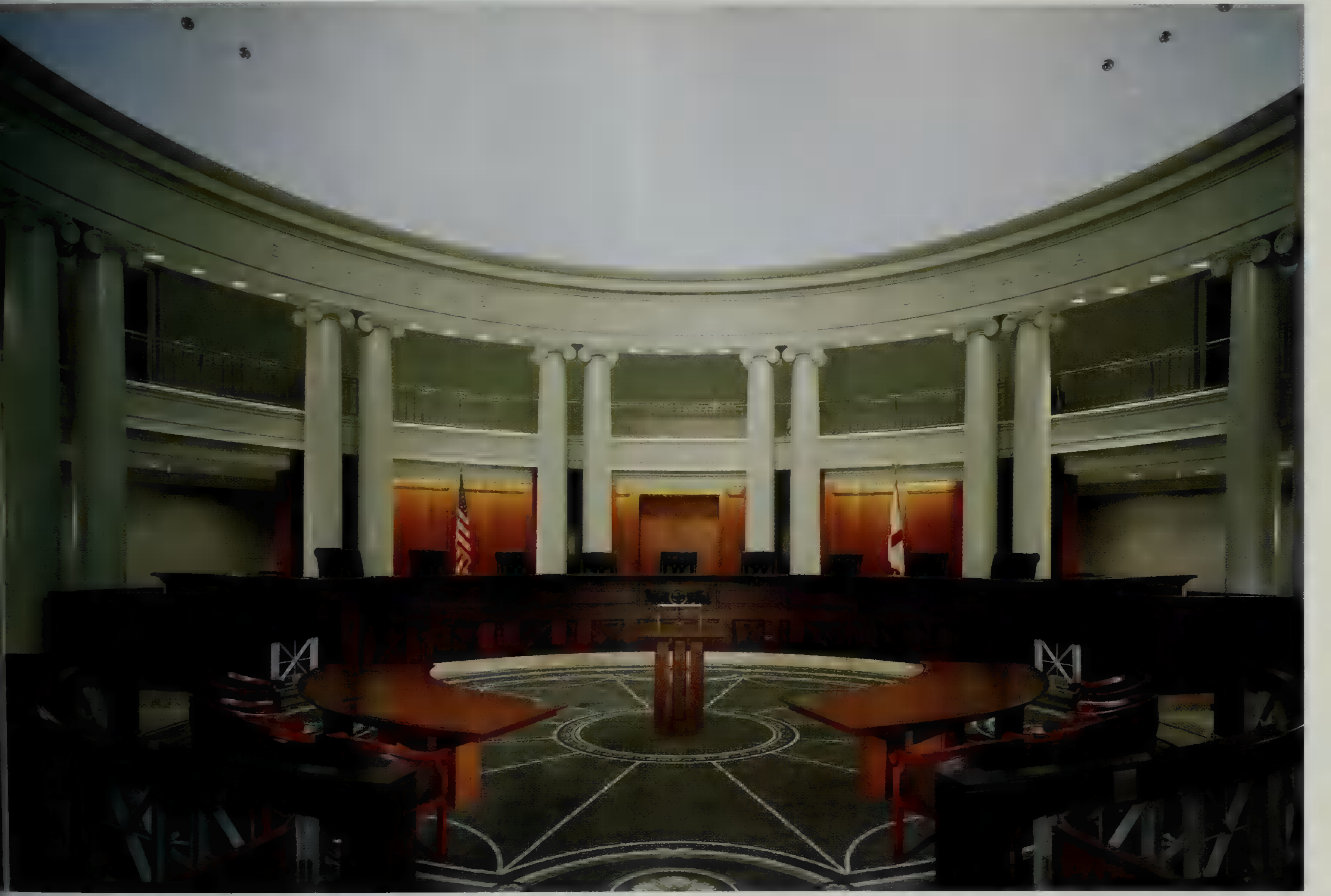


Tim Barron, project architect; Kusrin Dhamawongse, Carl Exford, Laura Harchelroad, Diane Luhrs, Holden McCurry, Oscar Pardue, Benita Petty, Wallace Williams, production team; Charles Sowell, landscape architect

Engineers: *Gresham Smith & Partners—Jack Dews, Carl Samppala (structural); Rick Wilson (mechanical); George Johnson (plumbing); Mike Flynn (electrical); Goodwyn Mills & Cawood, Inc. (civil)*

Consultants: *Dr. R. Wayne Drummond (courts); Space Management Consultants, Inc.—Dr. Michael Wong (programming); Gary Steffy Lighting Design, Inc.—Jeff Brown (lighting); The Joiner-Rose Group, Inc. (acoustical)*

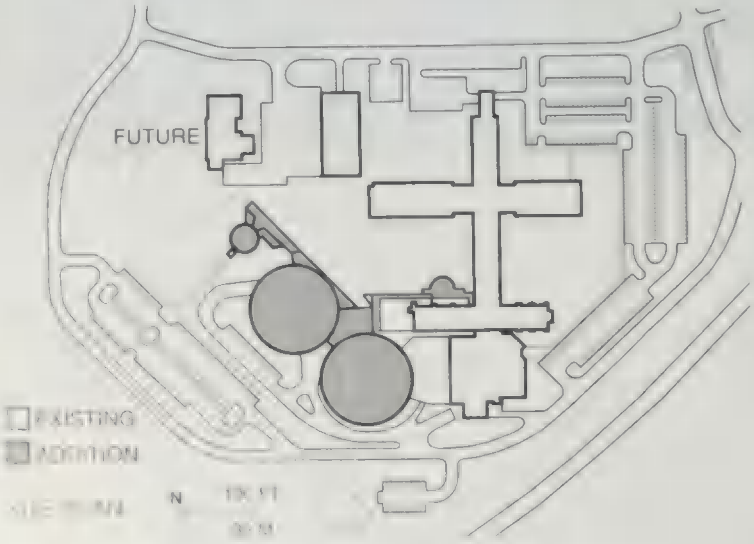
General Contractor: *Brasfield & Gorrie*



Kent County Correctional Facility

Grand Rapids, Michigan
Kenneth Neumann/Joel Smith and Associates, Inc., Henningson, Durham & Richardson, Inc., and The Design Forum, Associated Architects

With this addition to a county prison for short-term inmates, associated architects Neumann/Smith, the Design Forum, and HDR met the most sought-after criteria of administrators today: security, economy, efficiency, and speed of construction. The project is unusual by current detention-facility standards, however, because its highly visible location on a main artery leading into Grand Rapids called for outstanding design. Basic criteria are met by circular cell blocks. One guard in a central control booth monitors 96 cells located on two levels (plans and section overleaf). Requirements to segregate prisoners by age, sex, and seriousness of crime are met by walls radiating out from each booth. The pie-shaped divisions are self-contained units, where prisoners live, eat, and ar released in shifts through elec-



tronic doors to a mesh-enclosed exercise area. This further reduces the need for guards who would normally have to escort prisoners to dining halls and distant playing fields. Low-risk prisoners can also be released through remote-control doors to psychiatric-counseling, substance-abuse rehabilitation, and job-training facilities. These are located in the triangular central core of the addition (see plans, following pages), where they pass a second control point at the apex. Separate circulation routes for prisoners and visitors are provided in this core area by confining visitors to mezzanine-level corridors and prisoners to the cell-blocks' main floor levels. Prisoners are brought up or down to visitation rooms by a separate elevator.

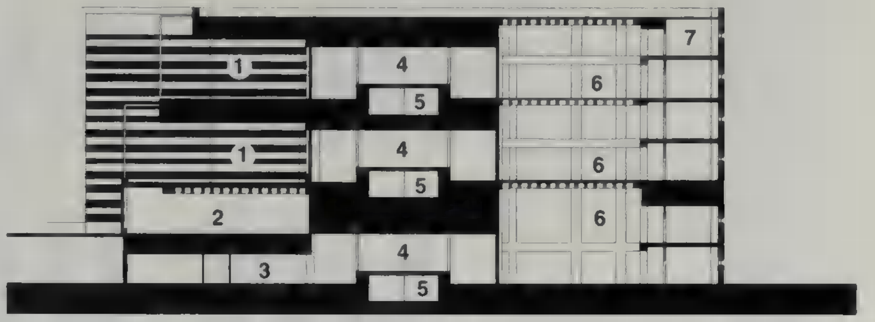
To accomplish design in three

© Glen Calvin Moon photos

months, two teams from Neumann/Smith and HDR worked closely with the prison administration on site during intense programming and early design charettes in which they quickly worked out the circular floors and triangular core area. Neumann/Smith then went on to refine the overall building design while HDR worked out the detailed technical and security requirements. The program was to more than double the previous capacity to 880 inmates and contain all prison services for an eventual capacity of 1,200.
Charles K. Hoyt

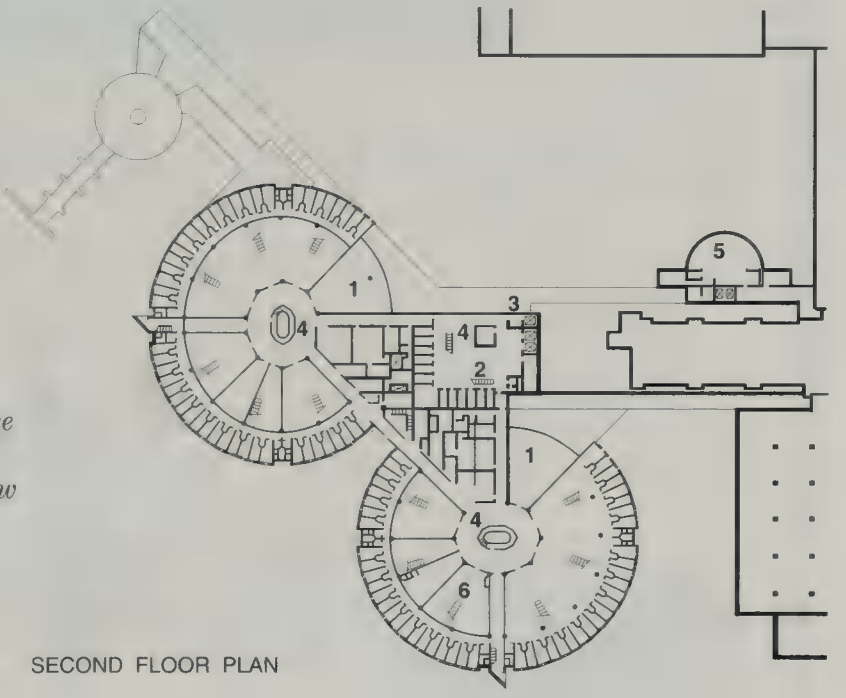
Credits
Kent County Correctional Facility
Grand Rapids, Michigan
Associated Architects: *Neumann/Smith Associates—Kenneth Neumann, principal-in-charge; Kenneth Neumann, Art Smith, project designers; Patrick Macoska, project architect; Henningson, Durham & Richardson, Inc.—Su Cunningham, principal-in-charge; Sharon Schmitz, project manager; Roger Stewart, programmer; Robert Price, project designer; The Design Forum—Neale Bauman, contract administrator; Bill Skallos, field architect*
Engineers: *Henningson, Durham & Richardson, Inc.—Vince Ellwood (civil); Steve Punch, Teresa Dellies (structural); Steven Chandler, Wilma Dohanich (mechanical); Charles Hyman (electrical); Cli Isom (security)*
Consultants: *Foodesign (food, laundry); Hopper/Sheeran, Inc. (soils)*
General Contractor:
Perini Building Company

1. Outdoor exercise
2. Mechanical
3. Lobby
4. Control
5. Electrical
6. Day room
7. Cells



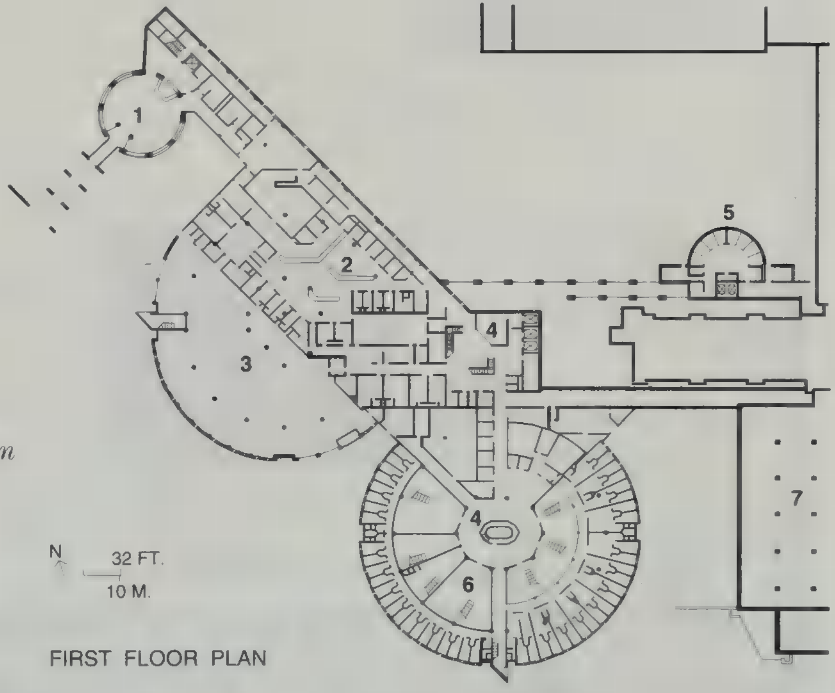
CELL BLOCK SECTION

1. Outdoor exercise
2. Interview
3. Public hall below
4. Control
5. Visitation
6. Day room



SECOND FLOOR PLAN

1. Visitor lobby
2. Inmate reception
3. Sallyport
4. Control booth
5. Visitation
6. Day room
7. Existing



FIRST FLOOR PLAN

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tters *continued from page 4*
are of the potential overcrowding and is rd at work to develop a masterplan for the ure development of the Mall. However, it the U.S. Congress that has pushed, or at st approved, the placement of all the emorials on the Mall. If the design commu- y wants to proffer objections, we need to so to the Congress and the National Park rvice, not to other designers.

to the approval process for projects on the all, yes, it is cumbersome, but we shudder the thought of where we would be if it were t in place. The Commission of Fine Arts, d some of the other reviewing agencies, ve the capacity, as well as the obligation, to e above political pressure and the frequent rgo of bad taste that may come with it. aya Lin's concept for the Vietnam Veterans emorial was immediately recognized by the sign community as a potentially great work art almost from the moment it was pre- nted to the public. It was vehemently acked by a few powerful political figures, t the least of whom was the Secretary of e Interior at the time. As architects for that oject, we desperately needed help from the mmission of Fine Arts and its chairman, J. rter Brown, to get it approved as designed. d we got it. Had that review and approval ocess not been in place, I have no doubt t the design would have been radically ered or never built at all.

e Korean War Veterans Memorial was just reverse problem. It was selected through imilar process to Vietnam (e.g. a national ign competition), but the competition and winning composition both had some ious flaws. All the reviewing agencies had erely criticized the competition winning ign as too big, too cumbersome, so fraught h obscure symbolism as to mystify the tor, and totally chaotic in circulation. With Vietnam Memorial, the problem was how se the review and approval system to save design; with Korea, the question was how se that same system to improve the ign.

fortunately, the original designers had not viously faced the labyrinth of the D.C. roval process and withdrew from the con- t rather than make changes. And we at per•Lecky, now in the role of architects designers for the project, went through tiple designs, multiple presentations, and nting heartache along the way. We were d with the problem of trying to retain e of the thematic content from the origi- competition while also attempting to te a memorial which honored the Korean Veterans but also offered a universal message about the concept of service to country.

In the end, it was Carter Brown and his Commission that pushed the design toward its present configuration. That is not to suggest that they brought pencils and tracing paper and made hard design proposals, but they provided the taste test that all designs had to satisfy. This is not said to disparage the original competition winners, nor is it said to lay praise on the present design, but this is one case where the "cumbersome review process" saved the day. As long as the men and women who make up those reviewing entities are people of both vision and good taste, they deserve our praise, not our criticism.
W. Kent Cooper, William P. Lecky
Cooper•Lecky Architects
Architects of Record for the Vietnam Veterans Memorial
Architects for the Korean War Veterans Memorial
Washington, D. C.

Calendar *continued from page 4*
Conference and Trade Show on April 12 and a Conference on Alternative Transportation April 10-12. Call 818/906-2700; fax 906-0367 for details.

April 17-18
Buildings/New York exhibition and trade show of building products from 450 manufacturers; New York Coliseum. Call 203/840-5608 (attendees) or 203/840-5808 (exhibitors).

Through April 14
"A Recent View of Architecture: Photographs by Paul Warchol" exhibition; National Building Museum, Washington, D.C. Call 202/272-2448; fax 272-2564 for more information.

Through April 19
"Six Bridges: The Making of the New York Megalopolis" at the PaineWebber Art Gallery, 1285 Avenue of the Americas (51st Street), New York City. An exhibition of the six bridges designed by Othmar H. Ammann. Call 212/713-2885 for information.

Through April 30
"The Chicago and Midwest Villa," an exhibition of new residential architecture and restorations in Chicago and the midwestern states, will be held at the Chicago Athenaeum. Call 312/251-0175.

continued on page 124

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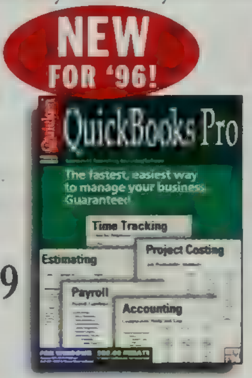

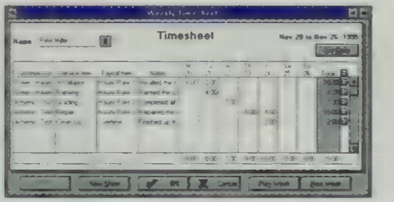

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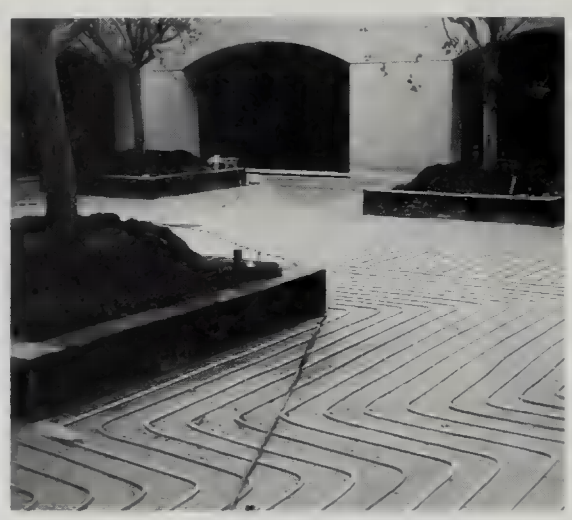
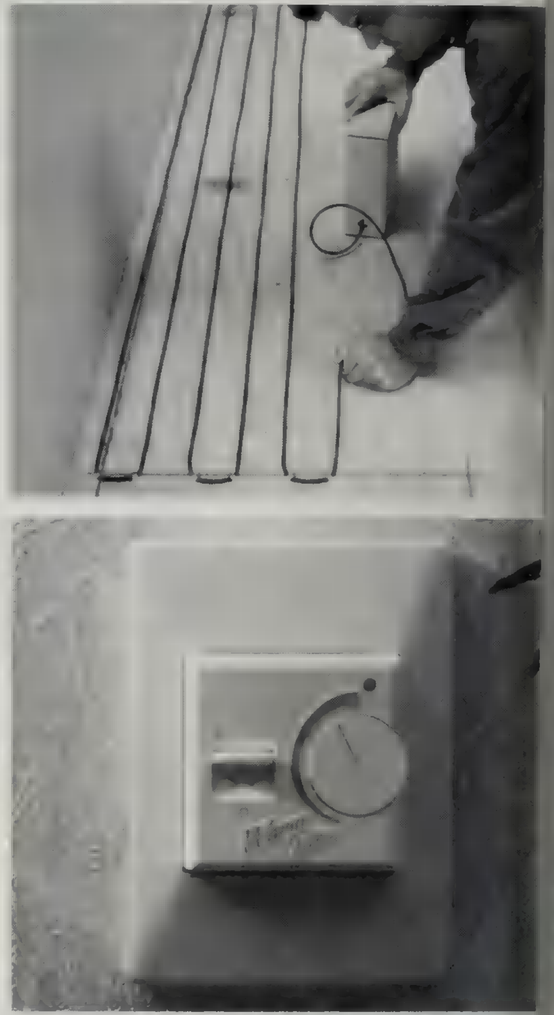
171. Under-tile radiant heat. The Nuheat system, a UL- and CSA-listed electrified mat that draws 12W psf, needs only 1/8-in. of depth, and can be installed as part of a thin-set tile floor, as shown. Mats come in sizes up to 9-ft-sq, and provide all the heat usually needed in a smaller space such as a bathroom; can be custom ordered to fit the angles of a supplied floor plan. 800/778-WARM. Nuheat Industries, Blaine, Wash.



172. Horizontal radiator. Capable of cost-effectively supplying the heat needed for an entire house, the Heatway under-floor system distributes heat-transfer liquids via an industrial Entran hose, a UL-listed component that resists high temperatures, long-term exposure to concrete, and hydrostatic pressure. (Photo shows the system installed in a courtyard at the Armand Hammer Museum, Los Angeles, prior to the concrete pour.) Tubing can be placed in the mud bed of tile floors, and stapled to the underside of plywood subfloors. Technical binder offered. 800/255-1996. Heatway Radiant Floors/Snowmelting, Springfield, Mo.



173. Electric underfloor system. A new product from a manufacturer of electrical-resistance heating cable for many commercia and residential applications, Warm Tiles has been designed to heat ceramic, marble, concrete, and similar cementitious or stone floors—but not as the primary source of spac heat. Cables come in lengths to warm up to 120 sq ft of floor, and are placed before the setting bed (top). A 120V thermostat (above allows a number of operating modes. Technic information for Warm Tiles and more commercial systems available. 219/654-3144. EasyHeat, Inc., New Carlisle, Ind.

174. Sheltering roofs. A vendor specializing in curving profiled metal panels offers a selection of roof designs particularl suited to transit applications, such as this bu shelter. The architect may specify almost an desired radius or angle of curvature. 800/89 0311. Curveline, Inc., Ontario, Calif.

Continued on page 117

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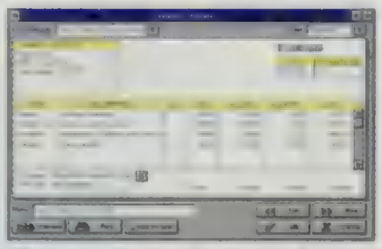

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curity *continued from page 45*

cording to Mary Smith, a security expert :h Walker Parking Consultants, of Indiapolis, even though 8.5 percent of violent me occurs in parking facilities. Other 'TED strategies include open or glassed-in irs and elevators, open, clear plans with as v columns, walls, and other hiding places criminals as possible. Site plans should us pedestrian activity rather than disperse

building amenity can become good defene architecture. A high-tech learning center l adjoin the library at Temple University, Philadelphia. Because the building will be operation around the clock, the Philadelia office of Bohlin Cywinski Jackson ranged study areas around an open atrium at connects all floors. The light-filled space not only a celebratory beacon to the mpus at large, it gives clear visual field ross all floors and offers attractive gather- places.

security design, there's no base line, no e-size-fits-all approach. That frustrates signers, says Hatzis. "Architects ask me to e them a place to start, but there is none. e have to start from zero each time." ere's no "bible" of CPTED, no minimum ndards about what entry points should be ntrolled, what kind of vertical control for itors and tenants is necessary, or even at controls should accomplish, he says.

signing for the worst case

oop designed the U.S. Embassy in nalia, which, in 1989, had only been occud for a few months when the government lapsed, provoking an uprising. "It was one he first buildings that complied with the nibus Diplomatic Security and Antiterism Act of 1986," explains Knoop, "which uired 100 feet of standoff distance ween embassy buildings and any earched vehicles." The compound was cessfully evacuated by helicopter.

an abortion clinic," says Rykert, "you 't have people walking in off the street, n though this philosophy is at odds with intended purpose of such facilities and of people who work in them." Such a mma faces a number of groups, according ruce Hoffman, a security expert at St. rews University in Fife, Scotland. The rah Building was apparently targeted in liation for deeds done by the Bureau of hol, Tobacco, and Firearms; other tard groups have included the Internal enue Service and Jewish community nizations. It is not out of the question, Rykert says, for threatened clients to consider biometric access controls, such as fingerprint scanning, hand-geometry patterns, voice-pattern scanning, or in extreme cases, eye-retina scans. (These use low-level lasers to compare blood-vessel patterns against a database.) But Rykert recognizes that many clients will find risks too high to accept or too costly to alleviate, forcing the shelving of a project or a move.

While some facilities are potential targets due to the philosophies or activities of the groups that inhabit them, others become targets because they are centrally located or highly visible (the World Trade Center). "Many buildings are potential targets just because they are big or owned by multinational companies," says Knoop.

Can you bombproof?

Damage inflicted to building structures from the detonation of explosive devices has only recently come under scrutiny by the building industry. Before that, it was exclusively a military domain. Focusing on the structural system makes sense, since damage to the building structure can lead to progressive collapse as in the Murrah building, reports Knoop. Since World War II, a large body of information has been collected on the effects of blasts on military facilities. Although less is known about the performance of office buildings, "there is sufficient knowledge and technology available to assist skilled designers in developing structural systems to resist at least some of the effects of a blast," says Knoop. Lorron's Massa has developed BombCAD, an architectural analytical security tool that estimates a building's blast vulnerability and helps to plan its defense.

Unless the world becomes a much safer place, the decision as to how much security is needed will remain difficult. "The point is," says Rykert, "to use the least amount of security, restricting operations as little as possible, and still protect people, property and premises."

Further information

AIA offers abstracts of a conference and four monographs on CPTED, each $2.50. AIA Research 202/879-7750.
"Violence in the Workplace," item 145998, $50 member, $100 non-member, published by the International Facility Management Association, 1 East Greenway Plaza, Suite 100, Houston, TX 77046-0194; 800/359-4362, 713/623-6124 (fax). ■

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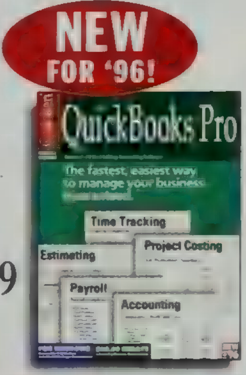

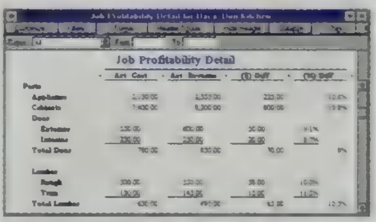

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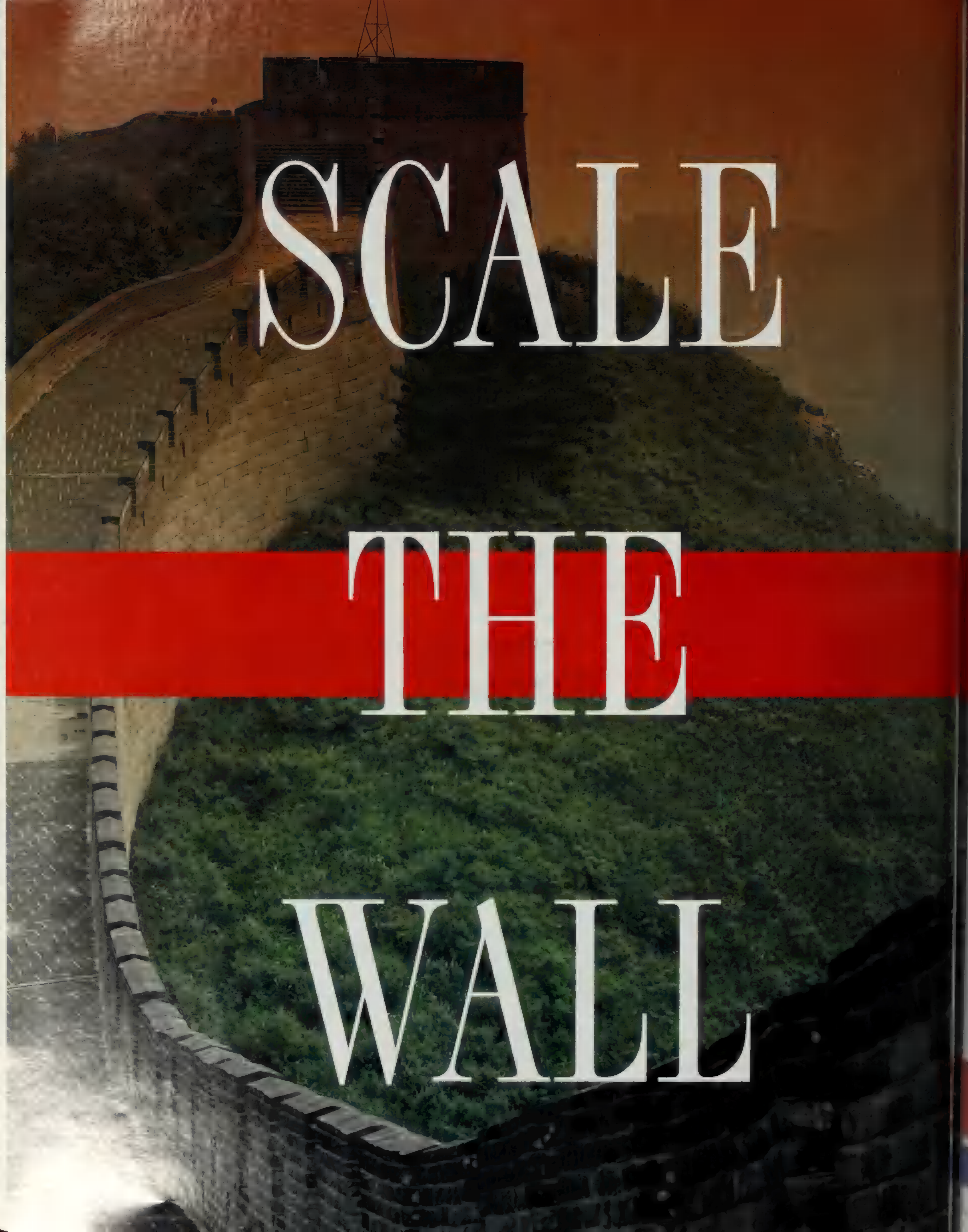

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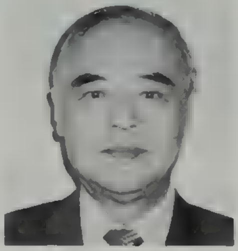
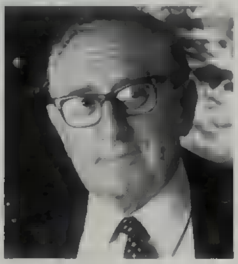


Sun Shangqing
President, Development Research Center of the State Council of the People's Republic of China



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The editors of ARCHITECTURAL RECORD are looking for projects both completed and on-the-boards – to be shown in the fourth annual Pacific Rim section. Projects must be in the Asia/Pacific Rim region and can not have been previously published in any other U.S. design magazine.

We are particularly interested in projects that exhibit innovative solutions to important design challenges, such as:

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- Dealing with issues of scale and massing,
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- Utilizing new architectural technologies.

Submissions should include:

1 Good photography (color transparencies or slides).
2 Floor plans, site plan, and any other drawings that help explain the project.
3 A short project description.

All architectural firms involved in the project must be given proper credit. Projects should have been completed no more than 2 years ago.

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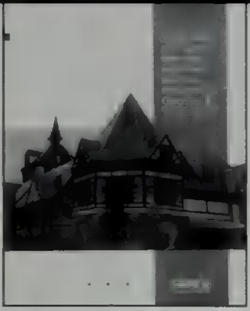
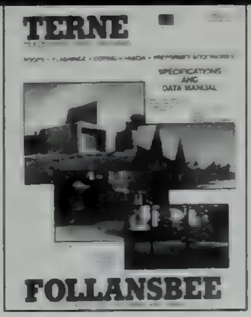
0. Architectural aluminum
ree 1996 catalog has 32 pages on finished sheet, coil, and accessory ducts for roofs and cladding. plication photos of built projects strate effects achieved by differ- seam profiles and color options; al choices also include steel, lead- ted copper, and terne/stainless. /PAC-CLAD. Petersen Aluminum p., Elk Grove Village, Ill.



191. Metal-roof underlayment
A folder demonstrates how Ice & Watershield, a self-adhesive polyethylene/rubberized-asphalt membrane, supplied in rolls or sheets, helps prevent damage caused by ice dams and wind-driven rain under metal roofing. It stops leaks through fasteners and other penetrations. 617/876-1400. Grace Construction, Cambridge, Mass.

2. Steel roofs for homes
)-page brochure includes color tos that illustrate how metal roofs on single-family homes and tments. Sections cover the ory and benefits of metal roofing; s and standards relevant to steel panels; and roof-replacement installation suggestions. 202/452-). American Iron and Steel itute, Washington, D.C.

193. Architectural zinc
Modern continuous-cast technologies produce zinc roofing and cladding in a range of gauges and widths. A design guide illustrates "bright" and pre-weathered finish options, and includes drawings that detail correct rain-screen installations for roofs and walls; suggests compatible substructures. 905/822-2022, x286. Cominco Ltd., Mississauga, Ont.



. Standing-seam systems
ght-page technical and design explains how this maker's culating clip" attachment accom- ites real-world misalignments een purlin and panel, letting the panel respond to thermal move- without binding. Both site- and preformed structural ing-seam profiles are described. 45-8555. MBCI, Houston.

195. Traditional terne roofing
An architectural guide stresses the design and long-term performance advantages of easily soldered, ductile terne metal as a weatherproof roofing material. Drawings detail standing-seam and batten installations; a color chart shows various Terne-Cote finish options. 800/624-6906. Follansbee Steel, Follansbee, W. Va.

Continued on page 119

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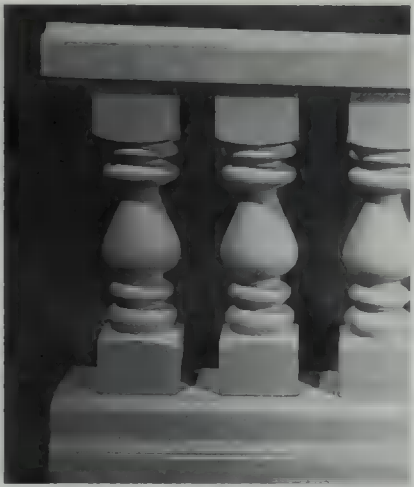
CALL FOR ENTRIES

RECORD INTERIORS 1996

The editors of ARCHITECTURAL RECORD announce the 27th annual RECORD INTERIORS awards program. This program is open to any registered architect; work previously published in other national design magazines is disqualified. Of particular interest are projects that incorporate innovative programs, building technologies, and use of materials. There is an entry fee of $15 per submission; please make checks payable to ARCHITECTURAL RECORD. Submissions must also include plan(s), photographs (transparencies, slides, or prints), and a brief project description bound firmly in an 8½ by 11-in. folder—and be postmarked no later than April 30, 1996. Winning entries will be featured in the 1996 RECORD INTERIORS. Other submissions will either be returned or scheduled for a future issue. If you would like your entry returned, please include a self-addressed envelope with appropriate postage.

Submissions should be mailed to:
Karen D. Stein
RECORD INTERIORS
ARCHITECTURAL RECORD
1221 Avenue of the Americas
New York, New York 10020-1095

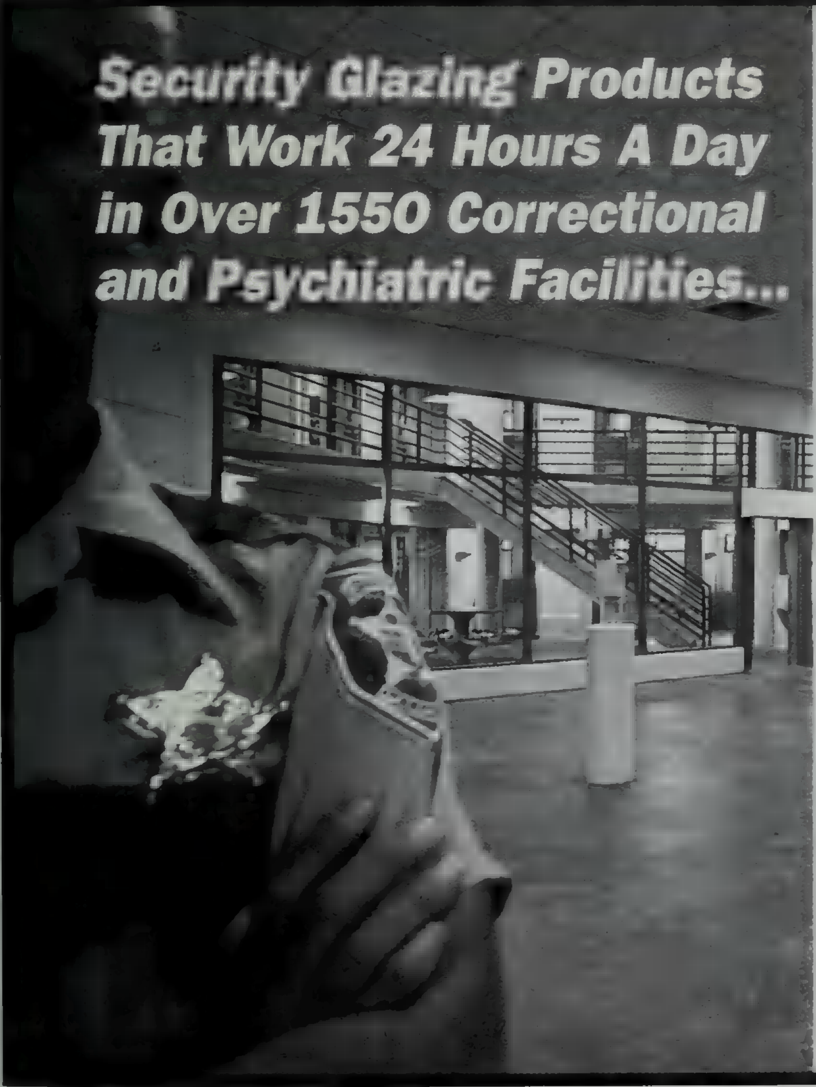


176. Balustrade replica. Made of a lightweight, high-density foam that has been molded around steel pipe at top and bottom rails, the baluster shown is one of a line of decorative and functional architectural elements for use indoors and out. Other designs include different rail styles, bases, and risers for stairways. 800/835-4400. Architectural Products by Outwater, Wood Ridge, N.S.

175. Lightweight precast. A new exterior cladding, stud-backed Slenderwall panels are said to provide the decorative and weatherproofing perform-ance of conventional precast panels at a significant weight savings. Architect Ken Rubsamen of Rothe/Johnson Corporation used 1/2-in.-thick tiles to match a new Technology Center with other buildings at Essex College in New Jersey. The panel has 2-in. of reinforced precast, with steel studs cast into the concrete and held by stainless-steel Nelson anchors. System is said to save on footings, framing, and heating costs. Finish options include face brick, clay tile, and exposed aggregate. 800/364-3981. Smith/Midland, Midland, Va.

177. White microsilica. A new, all-white formulation, Elkem's microsilica additive (foreground) will not discolor architectural concrete as does grey microsilica. Microsilica used in concrete improves the mixture's chloride- and chemical resistance and increases its compressive strength. The new white product is produced by smelting zirconium sand in open-arc electric furnaces, and has no carbon-containing raw materials. Available in 50-lb bags to the concrete admix, ready-mix, and precast-concrete industries. 800/433-0535. Elkem Materials, Pittsburgh.

Continued on page 118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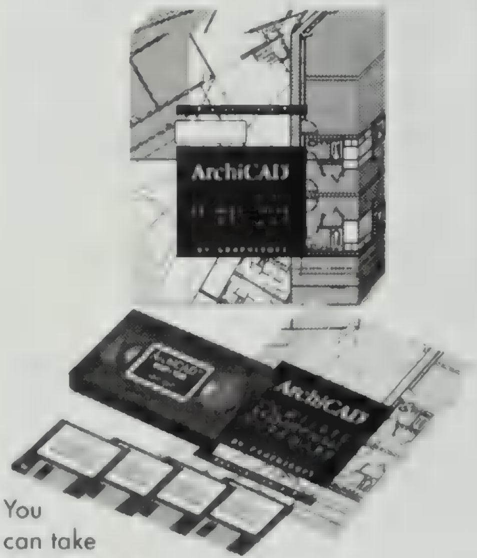

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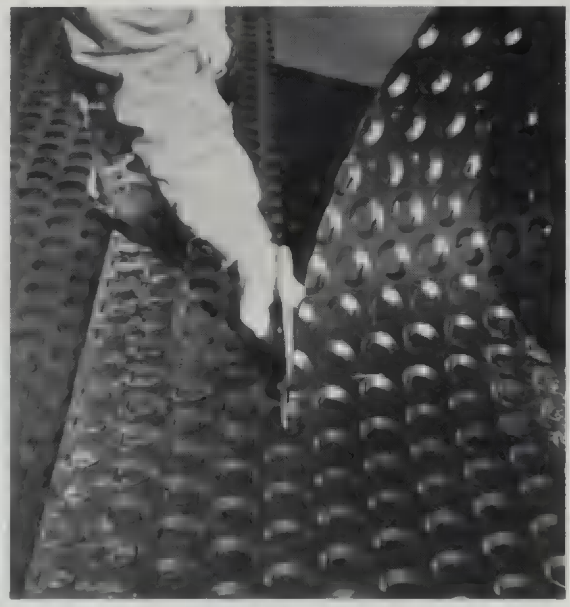
New Products *continued from page 117*



178. Plaza and deck drainage. Described as a solution for performance and longevity problems with exterior tile, pavers, brick, and stone set on balconies, plazas, walkways, and other suspended decks, Laticrete's plaza system employs a new drain mat (pictured). Saving the weight of a gravel bed, the mat provides for rapid elimination of infiltrated water and reduces the chance of frost damage and efflorescence. Studs on the sheet create mortar-holding cups resting on the structural deck, transferring live loads and permitting high traffic ratings. Details on-line at http://laticrete.com. 800/243-4788. Laticrete Int'l., Bethany, Ct.

179. Tile-edge reducer. Part of a wide range of installation products for the ceramic tile and marble industry, the Reno-TK is a sloped-transition profile that protects both the edge of a ceramic-tile floor and the adjacent floor covering, whether carpet, vinyl, or wood. Made of solid extruded brass, or aluminum in clear, gold, chrome, or brass finishes. 800/361-3127. Schluter-Systems, Plattsburgh, N.Y. ■

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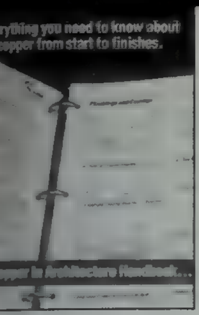
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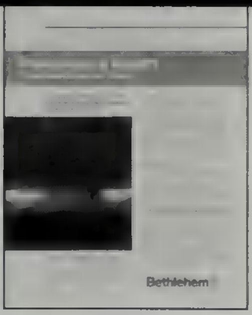
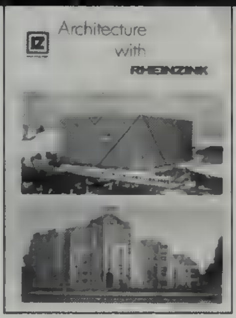
6. Copper handbook
ata sheet describes *The Copper in hitecture Handbook*, prepared for design professional. Available in n text and AutoCAD-compatible nats, the *Handbook* details almost ry use of sheet copper in building struction, including roofing, flash- s, rain-handling systems, and ldings. 800/CDA-DATA. Copper elopment Assn., New York City.

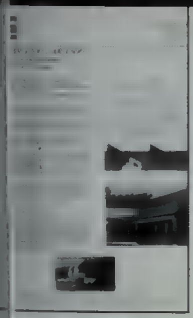


197. Galvalume specs
A building survey cites the superior corrosion resistance of prepainted Galvalume sheet roofing in acid-rain environments. Compared to prepainted galvanized sheet, Galvalume is said to exhibit minimal blistering and red rusting along roof drip edges. References and other technical support available. 800/352-5700, x400. Bethlehem Steel, Bethlehem, Pa.

3. All types of metal roofing
:-page catalog highlights installa- details and color options for an nsive architectural-metal product including roofing, soffits, and eycomb- and composite-core ding panels. Metals offered in- e steel, aluminum, copper, colored lless, Muntz metal, and anodized ninum. 800/UNA-CLAD. Copper s, Inc., Anoka, Minn.



199. Zinc roofs and facades
Illustrated by European applications of zinc-alloy roofs and wall claddings, an *Architecture with Rheinzink* brochure discusses the metal's environmental and weathering advantages. An available thermoplastic-core composite panel is described. 604/291-8171. Rheinzink Canada, Ltd., Burnaby, B.C.



. Snap-together roofing
AR-1200/AR-1800 is a new archi- ral standing-seam metal-roof m designed for slopes of 3:12 or er. For use either over wood or decks, or over open spans, the ystems can be specified with a lass 90 wind-uplift rating. 98-7663. Butler Roof Division, as City, Mo.

201. Copper-top shingles
Prestige roofing is made with a fiberglass-reinforced asphalt base and a copper weathering-surface. A brochure shows three styles—fish-scale, butt, and tile-look—used on residential and commercial roofs in the U.S. Said to patinate like standard copper. 800/598-8936. Tegola of North America, Denver. ■

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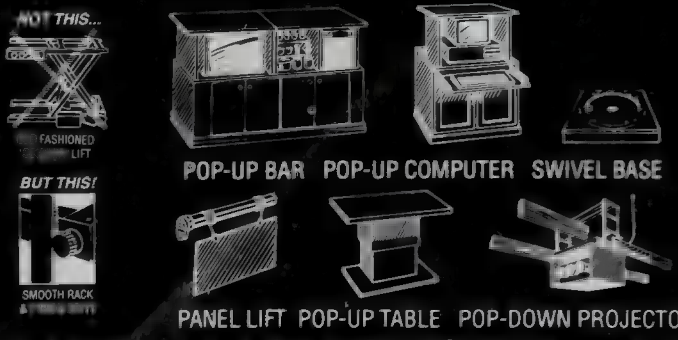

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Manufacturer Sources

For your convenience in locating building materials and other products shown in this month's feature articles, RECORD has asked the architects to identify the products specified.

Pages 70-73
MCA/Universal Child Care Center
Rios Associates, Architect
Unit masonry: Burns & Russell (Spectra Glaze). Siding: Redwood. Area light and exterior recessed downlight: Lithonia. Storefront framing: US Aluminum. Wood windows: Clouston Sash and Door, Inc. Glass entrance: Herculite. OSB beams: MacMillan/Bloedel (Paralam). Desk lamp: Luce-Plan (Berenice). Linear fluorescent over desk: Hubbell. Tripod lamp: Fontana Arte. Bent-ply seating: ICF (Aalto).

Pages 74-77
State of Alabama Judicial Building
Barganier Davis Sims, Design Architects
Gresham Smith & Partners, Associated Architects
Windows: Profile Systems. Limestone columns and cladding: Indiana Limestone. Window grilles, interior column cladding: Construction Services, Inc. Roofing: Carlyle Roofing. Precast (dome): Lazenby Concrete Co. Glazing: Nelson-Brantley. Interior lighting and custom fixtures: Gary Steffy Lighting Design, Inc. Chandelier: design by Lee Sims, fabricated by Sims Corp. Conference room chairs: Victorial Classics. HID downlighting: Edison Price. Paints: Benjamin Moore & Co. Courtroom carpet: custom, woven by Edward Fields. Judicial bench: custom by architect, fabricated by Woodcraft Mfg. Law Library cove lighting: Lithonia Lighting. Carpet: Shaw Industries. Ceilings: Armstrong World Industries.

Pages 104-107
Kent County Correctional Facility
Kenneth Neumann/Joel Smith and Associates, Inc., in association with Henningson, Durham & Richardson, Inc., and The Design Forum
Veneer brick: Belden Brick. Precast sills: Michigan Precast. Single-ply roof: Carlisle SynTec. Steel detention windows: The William Bayley Co. Aluminum storefronts: Tubelite. Security glazing: Globe Amerada. Insulating: Tempglass. Sallyport sectional door: Overhead Door Co. Detention metal doors: Johnson Fireproof Door Co. Acoustic ceiling: Tectum, Inc. Tile ceiling: USG Interiors. Reinforced CMU: Grand Blanc. Glazed base: Burns & Russell. Terrazzo:Crossfield Products, Inc. (Dex-O-Tex). Paints and epoxy coatings: Glidden. Dayroom furnishings: Southern Steel. Exterior lighting: Kim.

Corrections

- To obtain architectural, technical, and product information from the Owens-Corning Corporation, please call 1-800-GET-PINK. The telephone number listed in the December Desktop Directory is not correct.
- In Aaron Betsky's article "Stanford's New Style" [RECORD, January 1996, page 71], Harry N. Cobb of Pei Cobb Freed & Partners was incorrectly identified as the architect for one of the new buildings at Stanford. James Ingo Freed of the same firm is the design partner in charge of this project.
- The citation about the AIA award for the Michigan State Capitol [RECORD, January 1996, page 15] omitted the other three architects involved in the project. In addition to Richard C. Frank, they are David S. Evans of Quinn Evans; Eugene C. Hopkins of Architects Four; and John Meyer of Wigen, Tincknell, Meyer.
- In the article on St. Paul [RECORD, January 19 page 13], the correct name for the research cente is Design Center for American Urban Landscape The mayor's correct name is Norm Coleman. Th 1917 plan was created by Edward Bennett, a colleague of Daniel Burnham. The science museum not yet under construction and has yet to be fully funded. Primary team members in the Design Center's projects are Assistant Professor Julie Bargman, a landscape architect, and her researc assistants, Don Vehige and Gayla Lindt.
- A model photo on page 26 of the January 1996 RECORD should have been credited to Tom Bonn
- The list of 1996 AIA Honor Awards [RECORD, January 1996, page 15], failed to note in the urba design category that Smith Edwards Architects along with Herbert S. Newman & Partners were the recipients of the award for urban design for t Ninth Square Project in New Haven, Connecticu

Clarification

An Indicators page item in January implied that access to GreenClips, a free e-mail service, required America OnLine. It does not. ■

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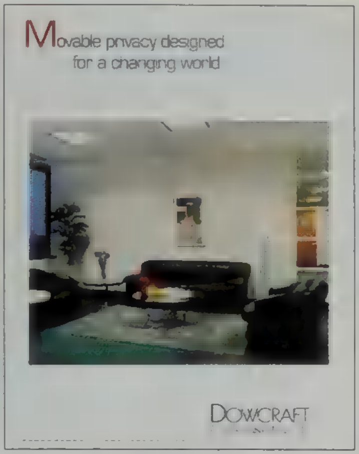

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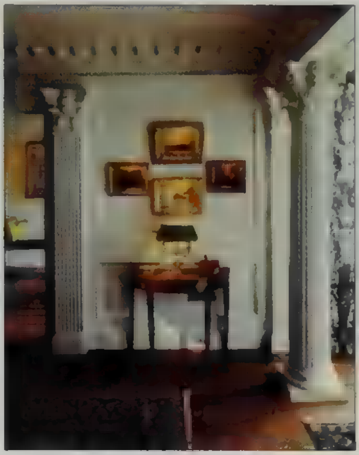

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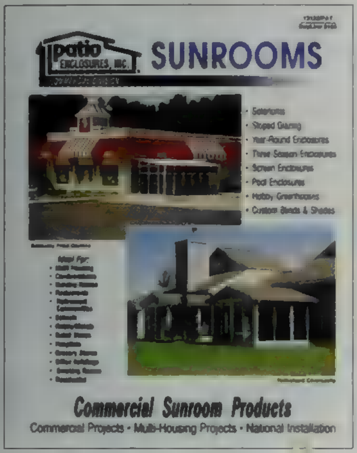

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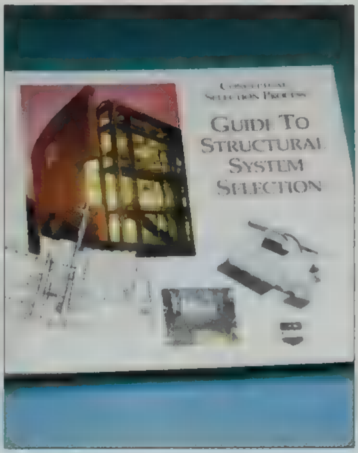

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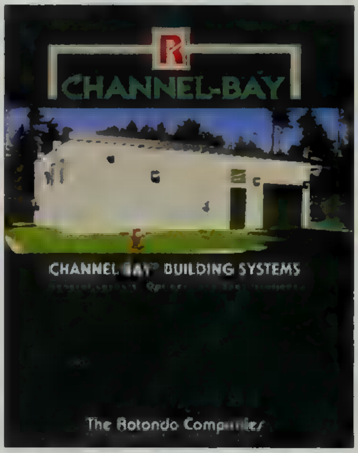

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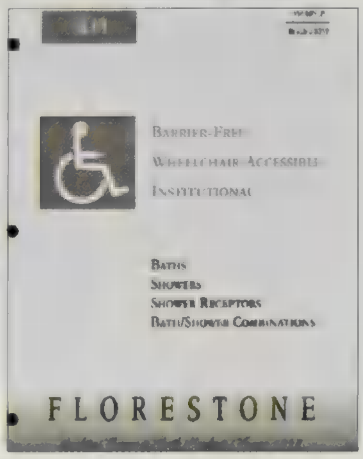

New Florestone brochure describes ADA compliant, barrier-free, wheelchair accessible and institutional showers, shower/bath combinations, and shower receptors. Drawings and listing of Building Codes and Testing Standards, as well as a section on the codes is included. Call (800) 446-8827.

Florestone

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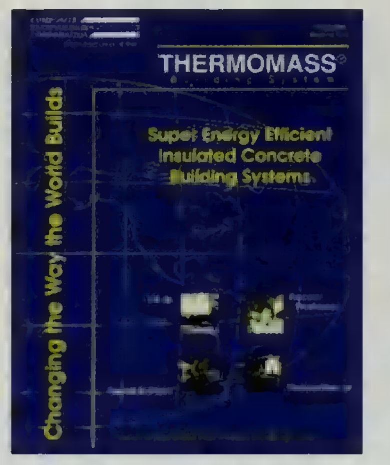
THERMOMASS® Building System for Superior Correctional Facilities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This system is a time-proven, super-effective method of insulated concrete construction that lends itself ideally to the stringent requirements of correctional facility construction. Fireproof. Energy efficient. Structurally superior. Ideal for "fast-track" schedules. Contact: Composite Technologies Corp., P.O. Box 1888, Ames, IA 50010. Call: (515) 232-1748. Fax: (515) 232-0800.

Composite Technologies

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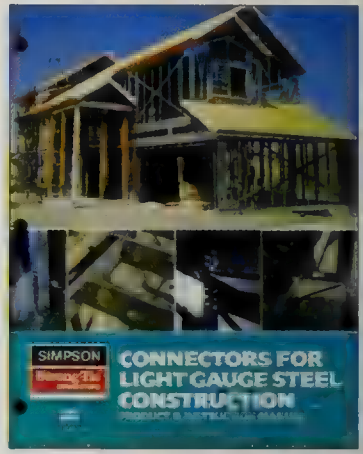
Connectors for Steel Stud Construction



This catalog of Strong-Tie® connectors engineered and performance-tested for steel stud framing includes loads, fastener schedules and detailed installation drawings. From anchors and holdowns to tension ties, hangers, angles and hurricane ties, over 60 products and sizes are included in this 16-page reference manual for light gauge steel construction. Write for catalog **C-95S-1**.

Simpson Strong-Tie® Co., Inc.

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Calendar *continued from page 109*

May 3-11

New York Interior Design Week includes a week of programs at various museums and cultural institutions. An interior-design show-case at The Ansonia will involve a team of designers recruited to solve common interior problems in apartments at the Upper West Side landmark. Call American Society of Interior Designers/Metro New York Chapter, 800/338-4411, for further information.

May 10-13

AIA National Convention & Exposition, Minneapolis Convention Center, Minneapolis-St. Paul. This year's theme is "the value architects and allied professionals provide the building industry." Over 100 seminars, workshops, and consultations are scheduled. Call 617/859-4475 for more information.

May 14-16

[illegible] International, Moscone Center, [illegible] A trade show and lighting [illegible] offered. Call 404/220-2217; [illegible] for details.

June 9-11

Jerusalem: Technology, Place & Architecture will be the theme of the third Jerusalem Seminar in Architecture. Tadao Ando, Enric Miralles, Glenn Murcutt, Jean Nouvel, Patricia Patkau, and Renzo Piano will present their most recent work related to the seminar theme. Call 972-2-611-563; or Fax 972-2-610-028 for details. ■

Competitions

- Entries to the Benedictus Award competition for architectural projects using laminated glass are due March 1. Call 202/393-5247 for information.
- Hong Kong international competition for a monument commemorating its return to Chinese sovereignty in 1997. Entry deadline: May 1. Write The Oval Partnership Ltd.,6/F, Wing On Cheong Building, 5 Wing Lok St., Central, Hong Kong, Attn.: Ms. C. Wong.
- The fourth annual USA Institute Internation Design Competition solicits investigations for architecture, and new uses for Governor's Island in New York City Harbor. Open to professionals under the age of 35 a of October 1, 1996. For more information contact the New Jersey Institute of Techn ogy, 800/624-9850.
- The 1996 Van Alen Fellowship in Public Architecture is sponsoring a competition f ideas for Governor's Island in New York Harbor. The entry deadline is April 2, 199 For inquiries, write, fax or email:

Van Alen Institute
30 West 22nd Street
New York, NY 10010
Fax 212/366-5836
vanalen@pap.designsys.com

- The 1997 Southern Home Awards are sponsored by *Southern Living* magazine. T be eligible for the awards, homes must hav been completed after January 1, 1993, and located within the magazine's primary circ lation area. This year's competition will ha a preservation emphasis. Entries must be postmarked by May 31, 1996. Phone 205/87 6000 for detailed information. ■

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Retail drafter to prepare working drawings/construction documents according to dimensional and detailed store planning specifications, design, criteria and requirements, using computer-aided drafting tools including AUTOCAD and MICROSTATION software and/or standard manual drafting tools. Layout and dimension interior partitions, showcases, backcases, and perimeter fixtures. Coordinate drawings: ceilings, flooring, lighting, interior walls, structural, mechanical and display systems. Confer with staff to update drawings according to client requests, and/or to comply with construction, detailing, materials, budget constraints, store equipment requirements, state/local codes and requirements, and change in criteria. Prepare detailed surveys of existing stores for type, quantity, and location of existing store elements, condition, materials, finishes, and colors of artifacts-perimeter walls, architectural, mechanical, electrical, lighting and all other existing components of the store relevant for new design and construction. 40 hpw; 9-5; $12.52/hr.; M-F. Requires bachelor degree in architecture plus 1 yr. exp. in job offered or 1 yr. as intern architect. Resume to Job Service of FL, 701 SW 27 AV., Rm 47, Miami, FL 33135-3014. Job Order #FL-1377454.

Wanted: Redevelopment and Project Manager for Real Estate Brokerage Firm. Provides professional services in development, design, construction, alteration and repair of real property; determines functional and spacial requirements utilizing AUTOCAD and prepares information regarding design, specifications, materials, equipment, estimated costs, and building time; plans layout of project and integrates engineering elements into unified design; reviews design and workmanship for compliance with engineering principles; evaluates and approves design changes. Bachelors of Science in Architecture and 7 semester hours AUTOCAD training required. 4 years experience in job or as Architect required. 40 hours per week. 9:00 a.m. to 5:00 p.m. $15.00 per hour. Must have proof of legal authority to work permanently in the U.S. Send two resumes to Illinois Department of Employment Security, 401 S. State St., 3 South, Chicago, Illinois 60605, Attention: James Gregory, Reference # V-IL 13392-Z, no calls, an employer paid ad.

Project Manager Santa Fe, NM firm seeks experienced Proj. Mgr. in education and commercial work, approx. 20 yrs. experience. Please submit resume, references and salary requirements to Yates Hogan Architects, 428 Sandoval, Santa Fe, NM 87501.

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Auton Company,**119** ; *34* (C-G-I) *(805) 257-9282*

B
Bentley Systems, Inc., **49** ; *20* *(800) BENTLEY*
Bilco Co., The, **66** ; *26* (E-G-H) *(203) 934-6363*
Bradley Corp., **63** ; *23* (G) *(414) 251-6000*

C
CalComp, **14** ; *8* *(800) 932-1212*
Cedar Valley Shingle Systems, **67** ; *27* *(800) 521-9523*
China Congress,BusinessWeek, **112-113** ; *(212) 512-2184*
Construction Technology '96, **108** ; *(610) 458-7070*

D
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EFCO Corp., **31** ; *16* (G) *(800) 221-4169*

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L
Laticrete International Inc., **32** ; *17* (G) *(800) 243-4788*

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Manufacturer's Spotlight,**121 to 124**; *75 to 101*

N
National Gypsum Co., **18** ; *10* (G-H-I) *(800) NATIONAL*
NCARB, A.R.E. Handbooks, **59**; (G)

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41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
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41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120
121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140
141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160
161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180
181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200
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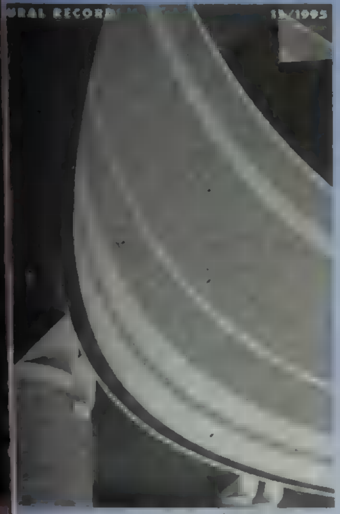

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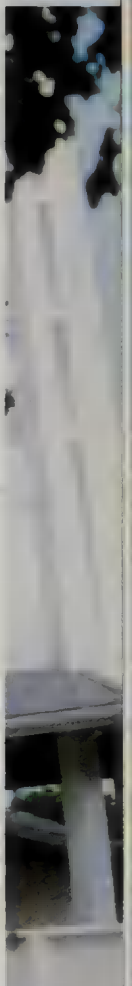

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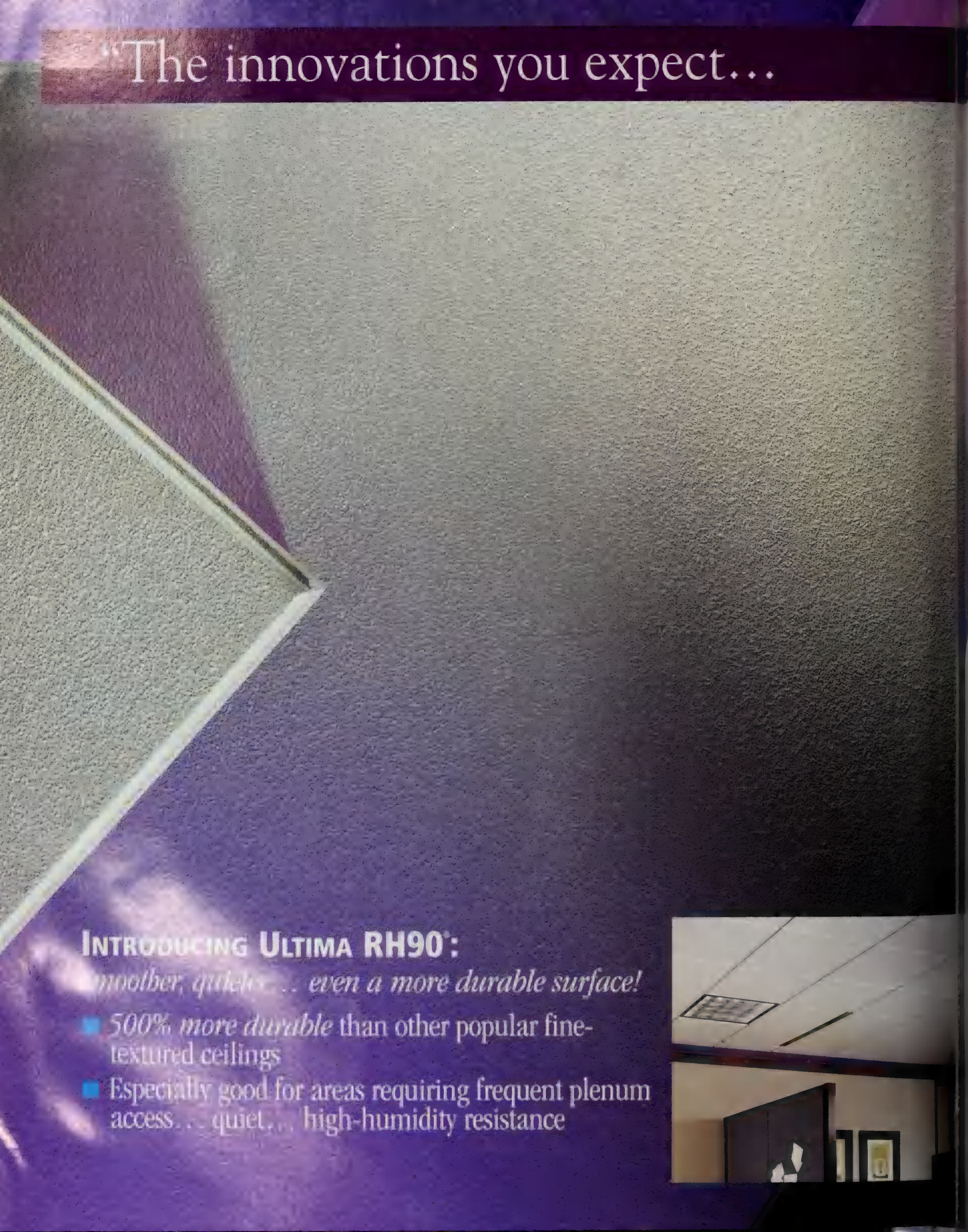

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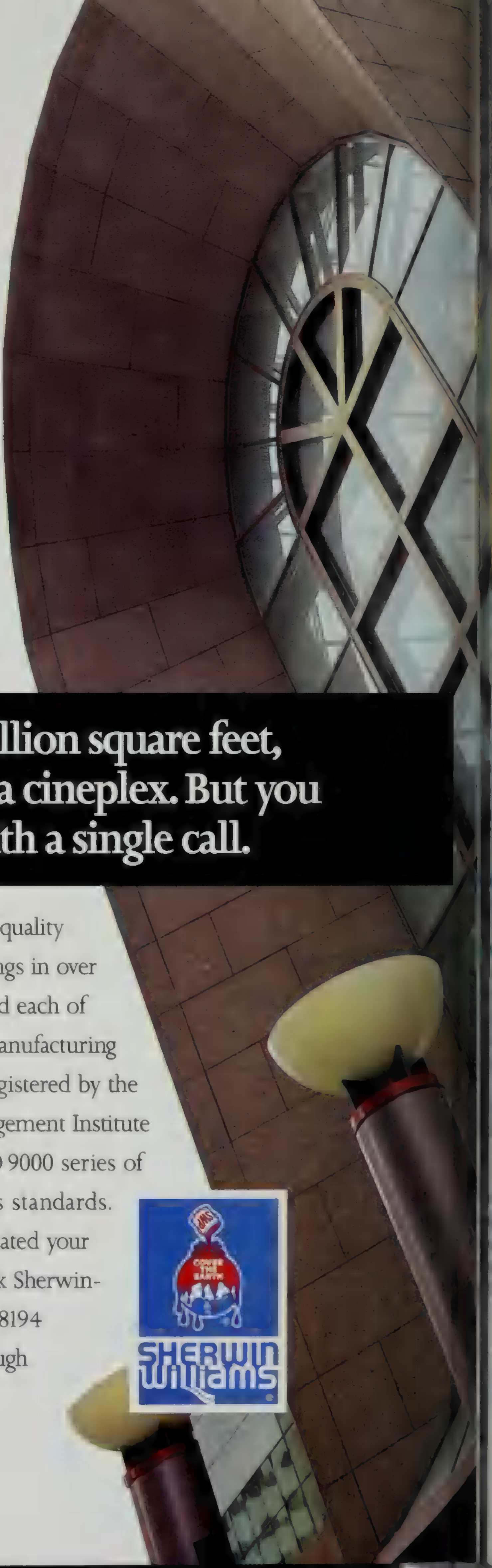

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FEATURES

Introduction 71

Stremmel House 72 *Mack Architects*
Reno, Nevada

Island House: Tikamaga 80 *Miller/Hull Partnership Architects*
Decatur Island, Washington

Bridge House Retreat 84 *Peter Gluck and Partners, Architect*
Olive Bridge, New York

Lott House and Guest House 90 *Carlos Jimenez Architecture Studio, Architect*
Houston, Texas

Burnette Studio/House 94 *Wendell Burnette Architect*
Sunnyslope, Arizona

Rural house for an Artist and a Writer 102 *Richard Gluckman Architects*
Nova Scotia, Canada

Capistrano Beach Glass House 106 *Rob Wellington Quigley, Architect*
Orange County, California

Barnes House 114 *Patkau Architects, Architect*
Nanaimo, British Columbia

THE PROFESSION

Indicators 37 Starts and resales; hot markets
Home Audio/Visual 38 A Warm Welcome for the Electronic Hearth
Kitchens and Baths 45 Industrial Influences
Software Reviews 59 Two CAD Upgrades, One Clever CAD Tool
Product Briefs 62 Plumbing Fittings

Editorial 9 RECORD Offers Readers Chance to Earn Continuing Education Credits

Letters/Calendar 4
News 11
Books 23
Manufacturers' Sources 118
Product Literature 127
Classified Advertising 143
Advertising Index 146
Reader Service Card 147

Continuing-Education Self-Report Form *page 135*

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rk Mack builds a big house in e biggest little city in the rld" (page 72).

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I don't believe most architects do ignore what you call modest commissions [RECORD, February 1996, page 9]. In fact, most enthusiastically undertake them. Most would try to do a "good design" and some would even succeed, possibly getting their project published in RECORD.

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Our profession doesn't lack for talent, but rather for demand. If the demand were there, budgets would be better, administrators would be more design conscious, [illegible] built environment [illegible] better, and I probably would not have had the time to write this letter.

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June 17-20
"Construction Technology 96." Conference sponsored by the Construction Information Group of The McGraw-Hill Companies including the Sweet's Group, ARCHITECTURAL RECORD, Engineering News-Record, F. W. Dodge, and the Construction News Publishing Network. Anaheim Convention Center, Anaheim, Calif. The event is part of A/E/C Systems 96. Contact Sharon Price, 800/451-1196 or 610/458-7070; fax 610/458-7171.

Through May 2
"Civic Lessons: Recent New York Public Architecture." Exhibition of 69 projects initiated by 23 city agencies. Alexander Hamilton Customs House, New York City. Sponsored by the New York Chapter/AIA and the New York Foundation for Architecture. A day-long symposium on April 18 is also scheduled. Contact NYFA: 212/663-0023 or fax: 212/696-5022.

Through May 5
Exhibition: "Contemporary British Architects." Sponsored by the Department of Architecture, The Art Institute of Chicago. Contact the Institute at 312/443-3600; fax 312/443-0849.

April 4-August 31
Exhibition: "The Architecture of Bruce Goff, 1904-1982." Sponsored by the American Architectural Foundation. The Octagon, Washington, D. C. Contact: 202/879-7766.

April 8-June 1
Workshop series in building-preservation skills. Subjects include available materials, preparing historically accurate paints, and maintenance philosophies. Sponsored by the Preservation Institute in cooperation with the Division of Architecture, Norwich University, Ver. Contact the Institute: 802/674-6752 or fax 802/674-6179.

April 13-17
American Planning Association National Conference includes 225 sessions, 40 mobile workshops, and tours of Disney World. Orlando, Fla. Contact APA: 312/431-9100; fax: 312/786-6702.

April 13-18
"Solar 96." Includes the 25th American Solar Energy Society Annual Conference and the 21st National Passive Solar Conference. Sponsored by the U.S. Department of Energy. Grove Park Inn, Asheville, N.C. Contact: ASES, 303/443-3130; fax 303/443-3212.

May 3-5
Kitchen/Bath Industry Show. Georgia Congress Center, Atlanta. Contact the National Kitchen & Bath Association: 908/852-0033; fax 908/852-1695.

May 3-11
The New York Metro Chapter of the American Society of Interior Designers presents "New York Interior Design Week '96," a week of seminars, tours, and exhibits. An interior design showcase at the Ansonia Condominium will be featured. Call 1/800-388-4411 for information.

May 8
A workshop entitled "Blurring the Lines" will be presented at the Boston Architectural Center. The event will feature an exhibit of 3D environmental graphics, print graphics, and an interactive kiosk that will all be on display through the end of May. Contact Jodi Singer: 617/497-6605.

May 16-September 13
"Ingenious Solutions—Process and Design in Residential Architecture." Exhibit explores Chicago architects' innovative answers to concerns for security, economy, and context. Jointly sponsored by the Chicago Architecture Foundation and the Chicago Chapter/AIA: 312/670-7770 or fax 312/670-2422.

May 30
"Why Teach Architecture?" Panel discussion on the place o architecture in elementary- an secondary-school curriculums. New York Chapter/AIA, New York City. Call 212/683-0023.

June 5-9
International Design Conferen in Aspen. The 46th conference' theme is "GESTALT: Visions German Design." Conference chairman is Herbert Schultes, head of design, Siemens AG, Munich. Contact IDCA: 970/92 2257 or fax 970/925-8495.

June 6-September 3
A special exhibition at the Museum of Modern Art in New York will celebrate the occasio of the 90th birthday of Philip Johnson, and his role as a cura and donor to the museum. Contact the Museum of Moder Art, 212/708-9400.

June 24-25
"Green Building Materials '96," conference for architects, speci fiers, builders, and manufacturers, Radisson Hotel, Gainesville, Fla. The program will explore important issues these professionals have concer ing the specification and manufacture of so-called "green" bui ing materials. For program information contact Dr. Charle Kibert at 904/392-7502; fax 904/392-9606.

June 28-30
The Construction Specification Institute's 40th annual convention and exhibit, Denver. A "Roofing warranties, maintenance and lifecycles" symposiu will be held in conjunction with the convention. Contact Lisa Derby at 800/689-2900, ext. 772.

Competitions

- The Glenwood Competition. Design for new Village Hall offers four prizes totaling $22,500. Jury: Ralph Johnson, Milo Thompson, community leaders. Contact Design Compe tition Services, Inc.: 414/963-0863. Deadline for registration is April 30. ■

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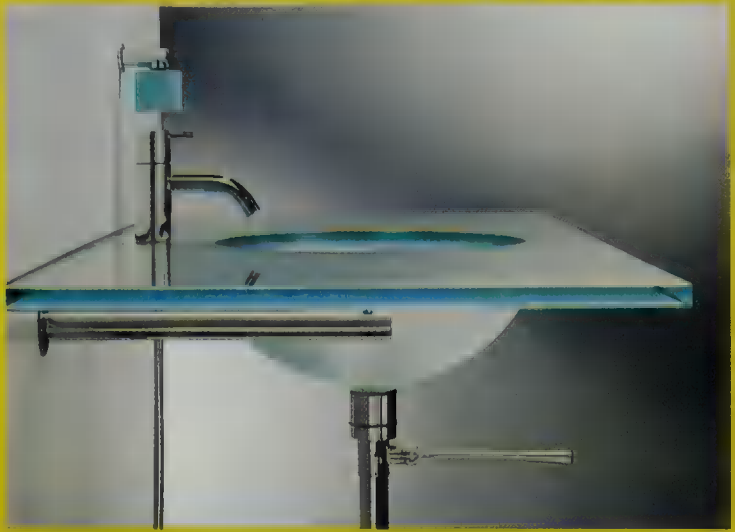

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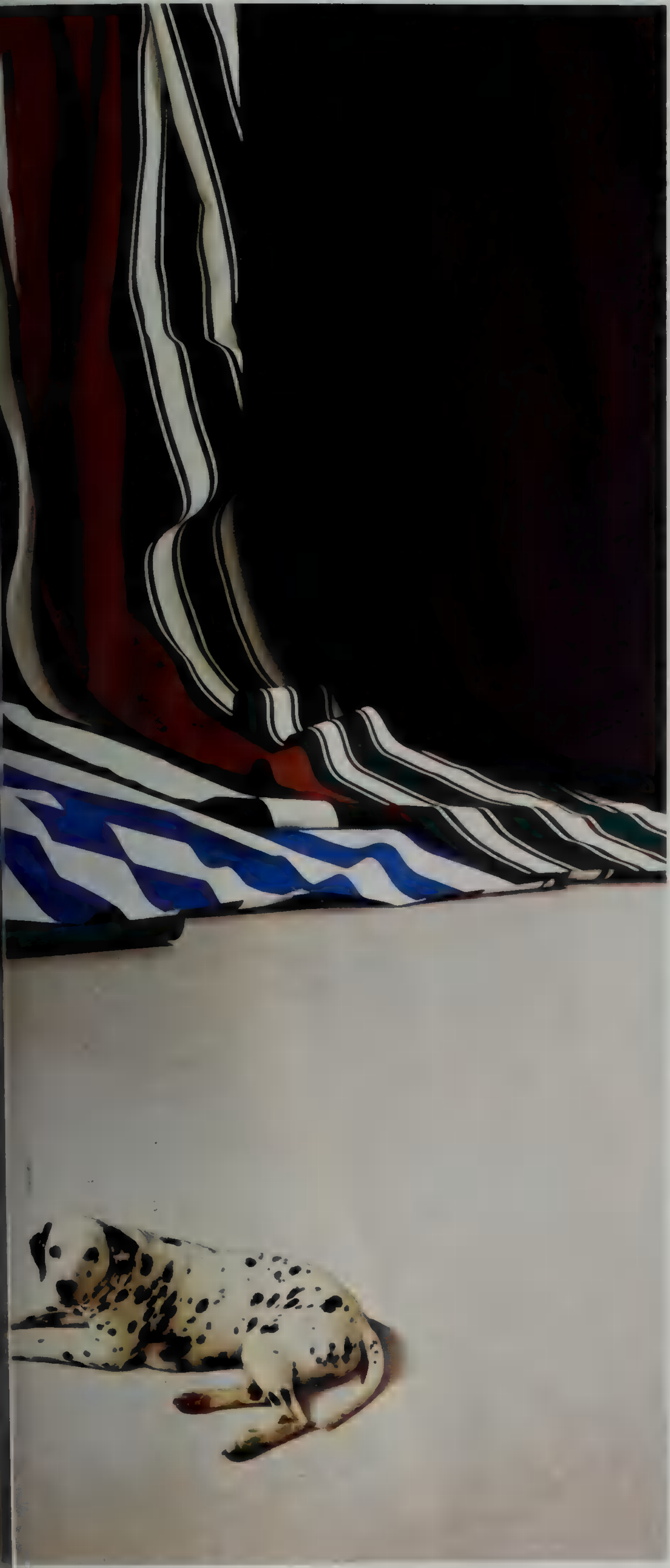

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ARCHITECTURAL RECORD Editorial

RECORD Offers Readers Chance to Earn Continuing-Education Credits

The states of Alabama, Iowa, and Florida now require architects, if they are to keep their licenses, to demonstrate that they have kept up with a fast-growing array of new skills, new technologies, and new information. Tennessee starts in 1997. About a dozen other states have enabling legislation on the books that they can begin to enforce at any time. The American Institute of Architects (AIA), as a condition of continuing membership, demands of its members that they earn a minimum number of continuing-education credits—36 learning units (LUs) over a three-year period ending in 1997, and 36 LUs in each calendar year thereafter.

To support architects in this area of increasing momentum, ARCHITECTURAL RECORD is pleased to announce that beginning with this issue, it's offering readers the opportunity to earn those valuable continuing-education credits through its pages. Henceforth, part of the value of your subscription will be the chance to conduct, through RECORD, a program of self-directed studies for lifelong learning, and to earn credits for your effort.

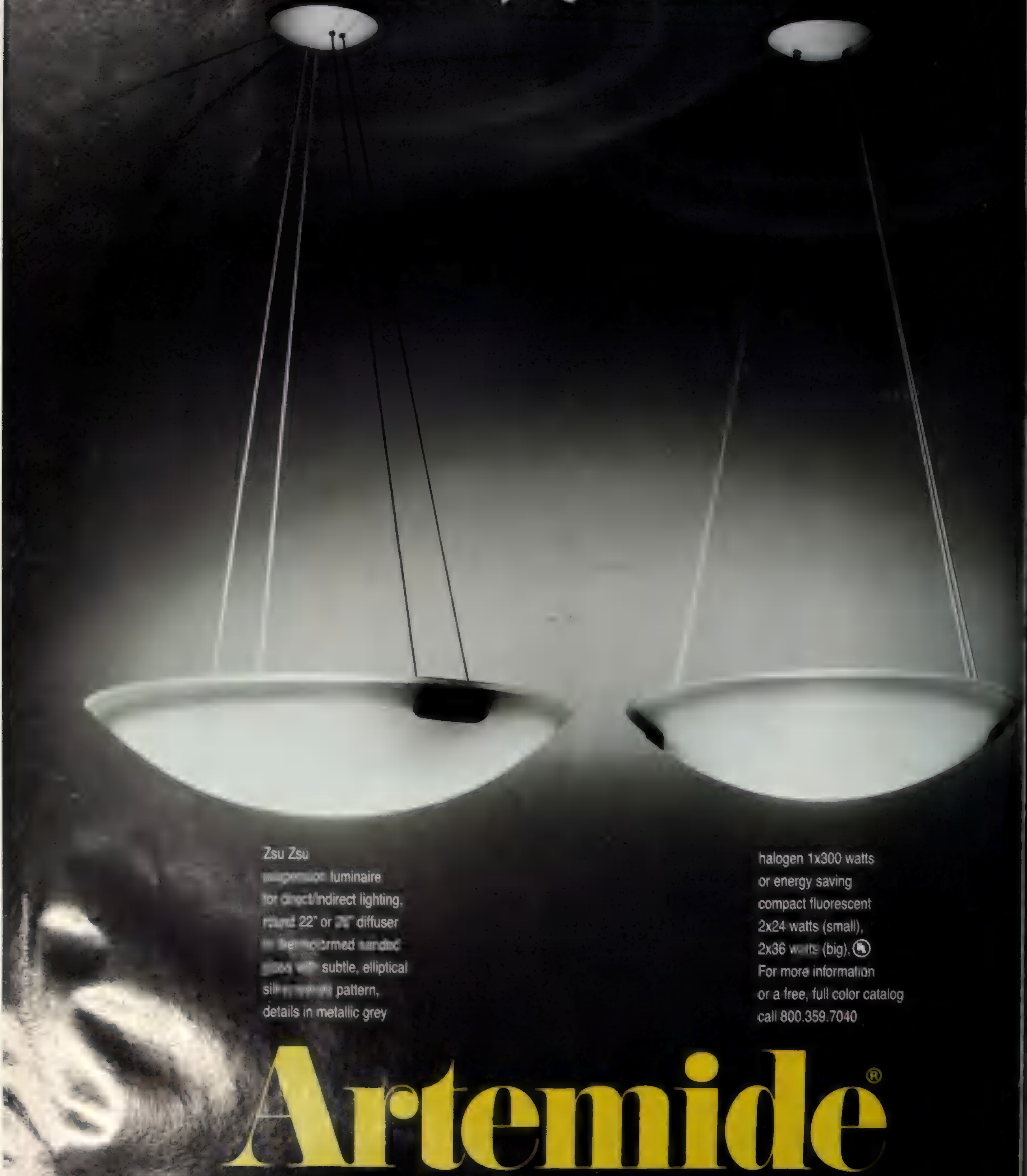
Here's how it works. The AIA has accorded RECORD the status of Registered Provider of continuing-education credits. This means that the program offered by RECORD meets quality standards established by AIA. Each month single articles, series, or the whole magazine may be suggested as continuing-education material, earning learning units (or their equivalent) depending on the amount of contact time, degree of interaction, and method of testing involved. This month, the entire issue of RECORD, with its focus on the single-family house, is being offered. To earn an AIA credit, read this issue, then simply fill out and mail the self-report form. It contains instructions and is bound into this issue (see table of contents for the location). For state credit, use a form prescribed by your own state. Readers with questions about the AIA's Continuing Education System may call Thomas Lowther at 202/626-7478. Readers with questions about continuing education in their own states should contact their state licensing board.

Only in a few large U.S. cities do architects have easy access to continuing-education resources, such as workshops, seminars, and trade shows. Many architects practicing elsewhere are reluctant to spend a lot of money to travel to those cities. They will now be able update their professional skills and earn credits without leaving their office.

RECORD doesn't intend to stop with the printed page. In time, the magazine plans to provide offerings that earn you higher levels of credit, both through its pages, and via on-line or CD-ROM. Material may be linked to added databases such as bibliographies, case studies, and design reference files. Advertisers will be encouraged to share their expertise through special advertising sections that will earn additional credits.

Knowing that RECORD is now offering continuing-education credits allows you to plan a coherent program for yourself to satisfy state and AIA goals. April is your chance to get started. Next month, look for an important credits-earning article on glazing. And expect added exciting features on design, practice, and building systems in the months ahead. *Stephen A. Kliment*

Your incandescent dinners or fluorescent conferences - are they big or small ?



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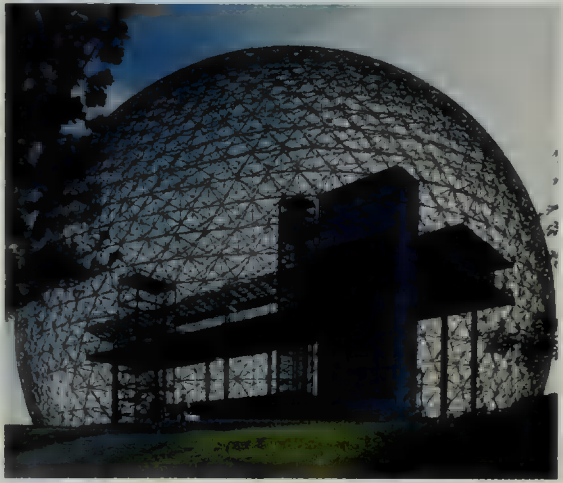
rth Boston, conceived by Swiss engineer
ristian Menn, is the subject of two lawsuits
t focus on planning, not design, issues.
htel/Parsons Brinckerhoff and Wallace,
yd, Associates are doing the preliminary
ign, with final design by HNTB. ■

Montreal

New Life For Buckminster Fuller Dome

Buckminster Fuller's U.S. Pavilion for Expo '67 in Montreal, one of the city's most striking landmarks, recently opened its doors to the public for the first time in almost 30 years. The geodesic dome, known as the Biosphere, is now home to an environmental-interpretation center designed by local architects Blouin Faucher Aubertin Brodeur Gauthier with Desnoyers Mercure & Associates. The 40,000-sq.-ft. project includes exhibition space, administrative offices, and a restaurant. The result of a protracted design competition, which involved the controversial disqualification of one well-respected contender, the scheme encloses the existing concrete platforms behind glass. No attempt was made to cover the dome—its original acrylic sheathing was destroyed by a fire in 1977. Although the project, a joint effort of the City of Montreal and Environment Canada, has been criticized locally for lacking a strong programmatic focus, the dome structure and its dramatic siting above the St. Lawrence River remain impressive. *Abby Bussel*



w York Metropolitan Region

Clear-Eyed Look t Region's Blues

ring into year 2120, the Regional Plan
ociation (RPA), a Manhattan-based
ate research group, foresees "a slow and
ntially irreversible" decline for the New
region if it continues to rely on short-
n solutions to social, political, and
omic problems. But the future need not
o grim, argues the RPA, believing that
region's 31 counties in New York, Con-
icut, and New Jersey, can reverse the
. In the just-released "A Region at Risk,"
hird plan since 1929, the RPA calls for a
ic-works program, including natural-
urce protection, investment in existing
n areas, a regional rail system, and edu-
nal reform. Some local business leaders
officials see the RPA's views as too pes-
stic, but the group's blueprint, requiring
$75-billion over 24 years, could add sub-
ce to political happy-talk. *A.B.*

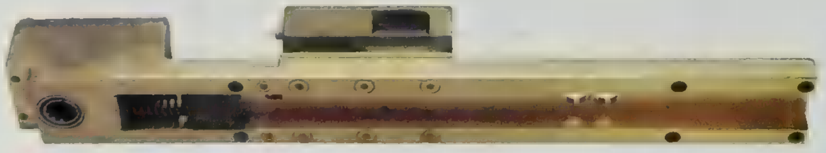
New York City

Lilly Reich: Out of Mies's Shadow

© *The Museum of Modern Art photos*

"Lilly Reich: Designer and Architect," at New York City's Museum of Modern Art through May 7, takes another step in the slow process of recognizing the women who made significant contributions to the Modern Movement. The show dwells on Reich's original work as an exhibit designer, where she focused on raw materials and industrial processes. While moving Reich from the long shadow of Mies van der Rohe, with whom she collaborated in Germany before he emigrated to the U.S., the show fails to thoroughly examine the main body of her work—ripe for further study. *A.B.*

Ellison's Balanced Door. Greater Than The Sum Of Its Parts.


Cast bronze check and door guide assembly

+

Cast bronze top pivot with bearing

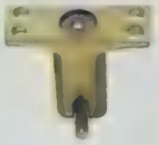
+

Torsion bar closer spring

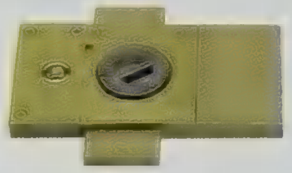
+

Cast bronze bottom arm

+


Cast bronze semi-automatic hold open device

+


Cast bronze floor box

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Cast bronze door roller guide

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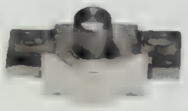
Cast bronze door bottom pivot

+

Cast bronze top arm

=

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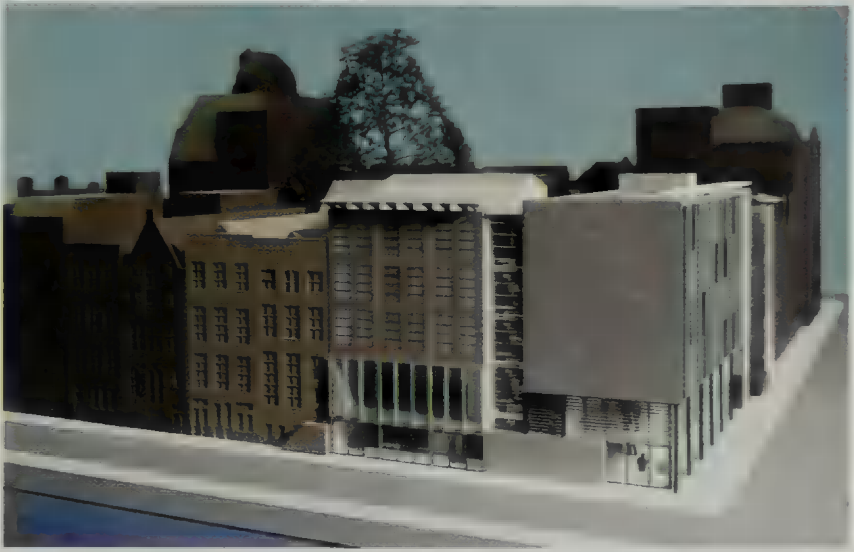
orrespondent's File: Amsterdam

evisiting Anne Frank's House

The back staircase (below left) was used by helpers of Anne Frank and her family. The model shows restored townhouses and a new building with lecture and exhibition spaces.



© Hans Brons photo

e Anne Frank House in Amsterdam, med after the young girl who chronicled r family's experience during the Holocaust her diary and was later killed, and guably one of the world's most famous uses, is being restored and expanded. The anaging foundation aims to restore as much possible of the original atmosphere to the g, narrow 17th-century canal-side house, ich received 600,000 visitors last year. To added are public amenities such as a ture room, a bookshop, a library, a *diatheque*, and exhibitions about the rise neo-fascism as well as on Anne Frank and rld War II. "Even though space is tight, museum will remain open during the storation," says museum director Marie- se Rijnders "We expect to be finished by ly 1998."

ne's parents had come to Holland in the e of escaping the rise of fascism and dis- mination against Jews in Germany. After Germans overran Holland, they saw mselves forced to go into hiding in July, 2 in the annex behind Otto Frank's busi- s at number 263 on the Prince's Canal. ne lived there with her sister, parents, and r others, the entrance to their hideaway den from view by a hinged bookcase. They e betrayed and arrested on August 4, 4. All were deported; Otto Frank was the y one to survive. He published an idged version of Anne's diary in 1947.

king a hideaway into a museum

ce the late 1950s, the Anne Frank House actually consisted of two houses, the original number 263 and the neighboring 265 on the Prinsengracht. A first restoration took place in 1958, a second in 1970. Plans for the current makeover, supervised by C.L. Temminck Groll, an expert on restoration of the period, and an expansion, designed by Mels Crouwel of the Modernist Amsterdam-based studio Benthem Crouwel Architects, were nine years in the making. (Benthem Crouwel won an initial competition to design the project. When the program changed, they were commissioned by the museum to do a new scheme.) The version that was finally approved requires demolishing a block of housing for young people on the corner of the Prinsengracht and the neighboring Westermarkt square. It is to be replaced by a new building consisting of the bookshop, coffee shop, and exhibition, lecture, and reception spaces behind glass facades; the top four floors will once again be youth housing, with each apartment having its own operable wooden shutters.

While access to the cramped quarters of the annex will remain limited because of fire codes, those waiting to enter the museum will no longer have to stand on the street since the project adds 6,400 sq. ft of space. Until now, the museum had 1,200 sq. ft at its disposal.

Inter-weaving old and new

"Visitors will enter the museum through the new building on the Prinsengracht and leave around the corner on Westermarkt," says director Rijnders, "having followed a longer and more leisurely route than they do now. They will also see more; for example, the helpers' stairway that leads to the bookcase and the annex, and Otto Frank's office with period furniture." Collaborating with Temminck Groll, the museum has decided to recreate the atmosphere of the house as it was during the war without actually making a replica of it.

The first historical space visitors enter will be the storeroom on the ground floor, where spices were made. In the annex itself the close, cooped-up atmosphere will be evoked by darkening the windows just as they were during the war. The window in the attic where Anne used to sit and write will stand slightly ajar, affording a view of the chestnut tree she describes in her diary. To ease circulation, Crouwel has added a passageway at rooftop level connecting the attic of the annex with the top floor of the main house. All such contemporary additions are of glass, marking the contrast between new and old; the spiral staircases leading down to the exit have glass steps and wood-paneled walls.

The estimated cost of the entire project is $10 million, divided almost equally between the new and existing buildings. The Anne Frank Foundation itself is providing nearly $2 million—visitors have been paying a supplement on their entrance tickets for several years—and the national government another $2 million. The remaining sum of $6 million has to be raised through donation. Director Steven Spielberg was one of the first to contribute, with a gift of $250,000. *Tracy Metz*

Thoughts On

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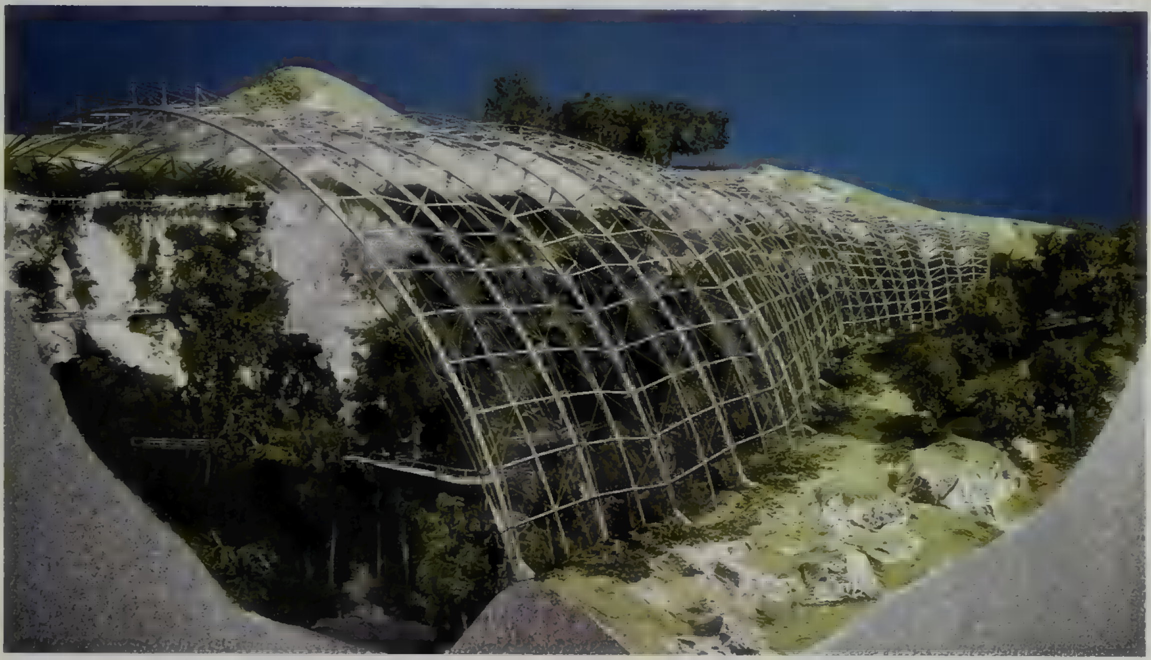
ew Face for Independence Mall
ne Pew Charitable Trusts has commissioned
nturi, Scott Brown & Associates (VSBA) to
epare a conceptual plan for Philadelphia's
dependence Mall and a preliminary design
a new Gateway Visitor Center. VSBA will
e "as a starting point" a plan developed for
e site last year by the National Park
rvice (NPS) that has been criticized for
king a comprehensive vision. The Trusts
ll consider contributing funds to the
oject based on the ideas to be presented by
BA this summer. The Trusts expect to
rk closely with the park service and the
y throughout the planning process, which
mains preliminary pending completion of
S's plan for the site.

.5-billion Theme Park
ans to build a $1.5-billion theme park in
aka, Japan, were announced by MCA, Inc.,
ich recently commissioned Rem Koolhaas
design a master plan for its Universal City
nplex in Los Angeles [RECORD, March
6, page 11]. The corporation's first
ture outside the U.S., Universal Studios
an will be linked by high-speed water taxi
he Kansai International Airport, Renzo
no's own version of a fun ride. MCA has
yet named an architect for the project.

ituaries
rchitect Alejandro de la Sota, an influen-
Modernist in Post-War Spain, died
ruary 14 at 82. His best-known works are
Maravillas Gymnasium in Madrid (1961)
the Civil Government Building in Tar-
ona (1957). Many of Spain's well-known
dernists consider themselves direct disci-
of his Minimal Rationalism, Juan Na-
ro Baldeweg among them.
sther Kahn, widow of architect Louis I.
n, died February 24 in Philadelphia. She
90. A neuropathologist by training, Kahn
redited with galvanizing the group of
itects and historians who helped to place
husband's archives at the University of
nsylvania. She fought to preserve the
itectural integrity of his work and
ained accessible to researchers, histori-
and students.
avid Gebhard, architectural historian and
her, died March 3 in Santa Barbara, Cali-
ia. He was 68. Among his books are:
lolph Schindler: Architect and *A Guide to*
Angeles and Southern California,
ten with Robert Winter. ■

Cornwall, England

A Millenial Garden of Earthly Delights


© Michael Dyer

Months after Britain's Millennium Commission chose not to fund Zaha Hadid's competition-winning Cardiff Opera House design, it now has an opportunity to redeem itself. One of the latest proposals presented to the Commission is the Eden Project, an international resource center for eco-education and research in Cornwall by Nicholas Grimshaw & Partners, Anthony Hunt Associates, and Davis Langdon & Everest, among others. A half-mile-long greenhouse, Eden will house four climate-controlled zones called "biomes" and a visitors' center. Curving down and around the south side of a defunct clay pit in this economically depressed area, the double-bowstring roof is to be a dynamic feature in the landscape, but a nearly invisible backdrop to the main event inside—a transparent, pneumatic pillow system powered by photovoltaic cells. Given its environmental agenda, ingenuity, and local employment prospects, the project, its matching funds secured, may fare better than the ill-fated Opera House. *A.B.*

Chicago

Chicago's Historic Architecture Threatend

Thirty Chicago buildings or districts recommended for landmark status were without legal protection through the winter and could, theoretically, have been demolished or altered. Among them are Mies van der Rohe and Louis Sullivan buildings. And there is no guarantee they will survive the next year. In an end-of-session housecleaning, the Chicago City Council secretly discarded those recommended (some from 1980) for designation, which requires Council approval. A court ruling brought the Council's action to light. Mayor Richard Daley intervened and the Council passed a resolution on March 6 restoring the 30 to their former status—with a catch. The city's preservation ordinance now includes a sunset clause, requiring potential landmarks to be reviewed by the Council's Committee on Preservation within one year. There is, however, no corresponding requirement for the City Council, making it possible for designation to fail by a kind of pocket veto. Compounding the problem, no building or district may be nominated more than once. Alderman Burton Natarus—a preservation opponent whose ward contains 20 of the 30 properties—has vowed to call hearings on each of the 30 that must be considered or discarded, straining preservation organizations. *Cheryl Kent*

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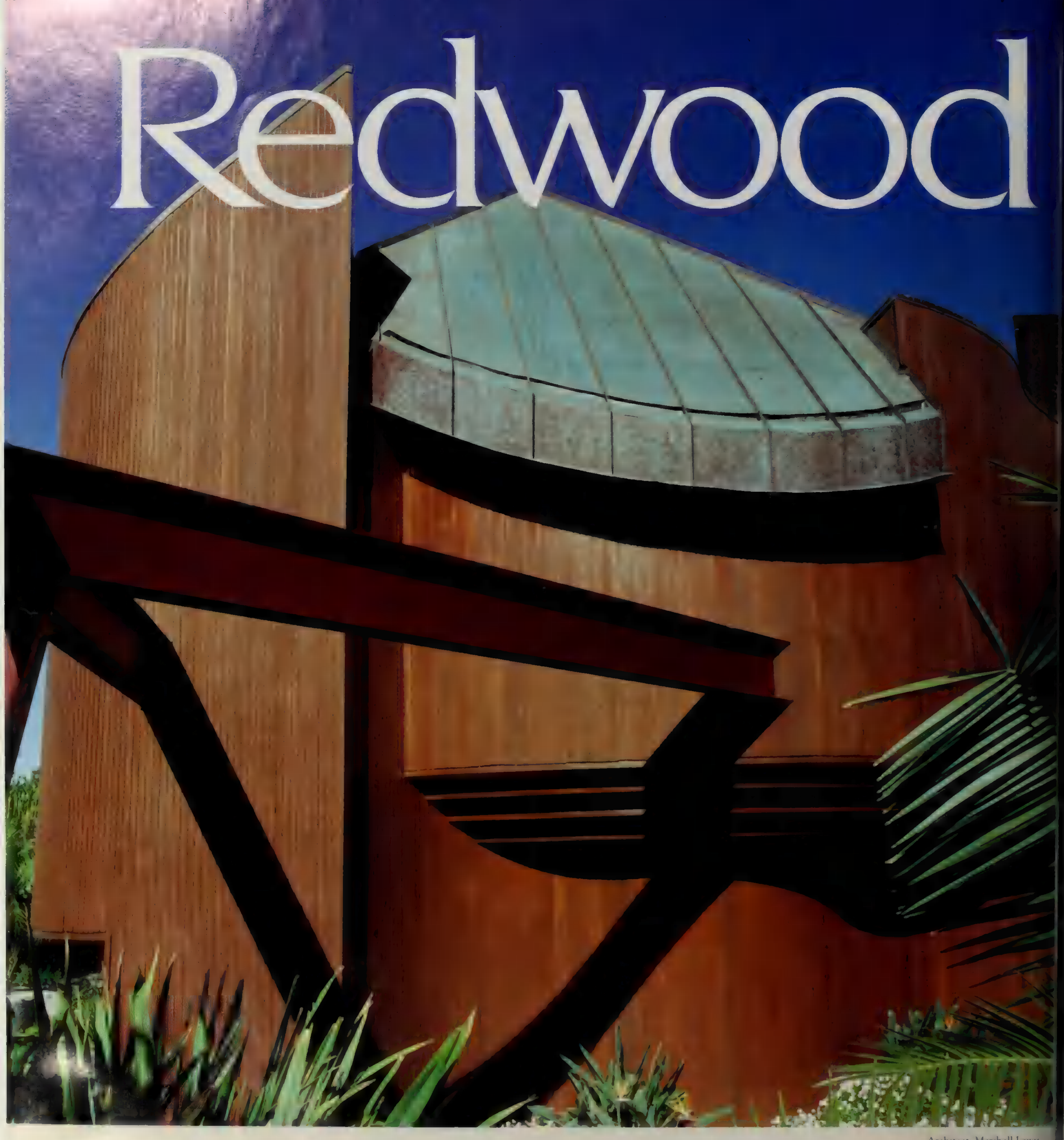

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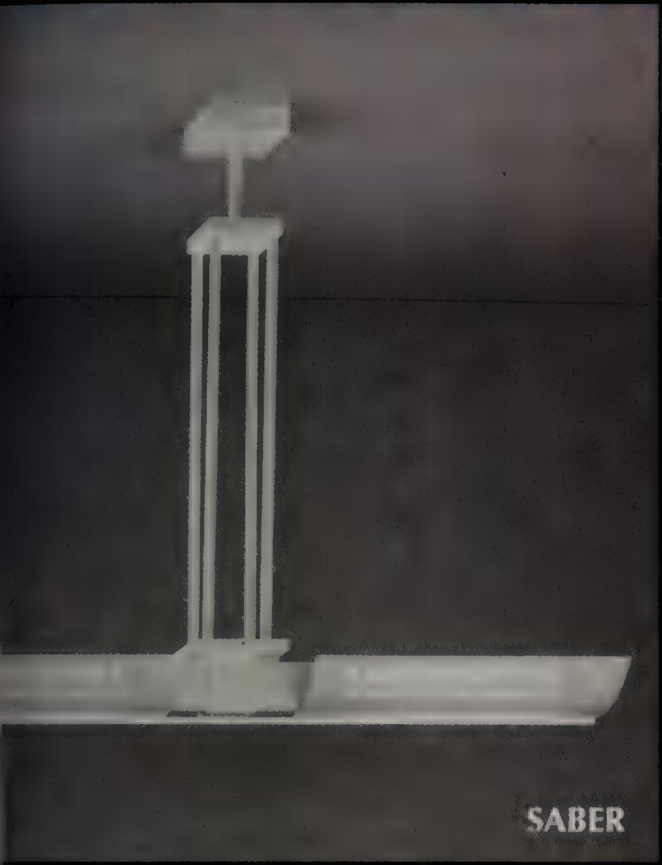

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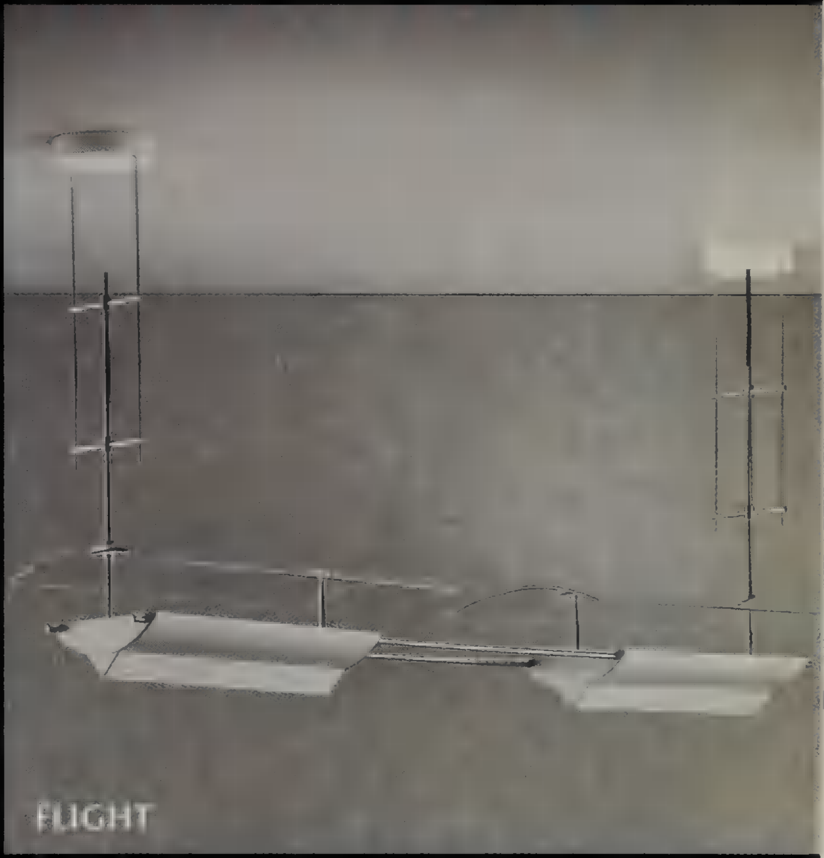

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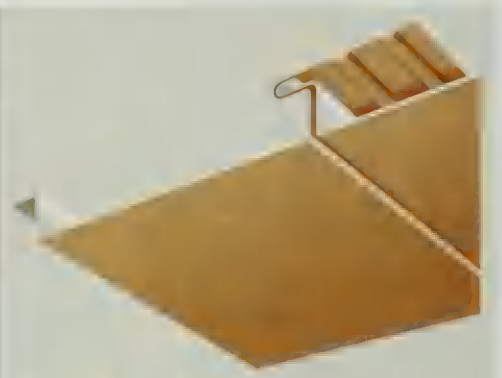

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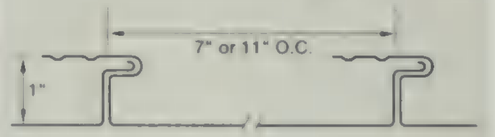

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Color: Stone White.
Profile: Flush Panel

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Tale of Two Cities:
essons from Two Coasts

rallel Utopias: The Quest for
mmunity, The Sea Ranch, California;
aside, Florida, *by Richard Sexton. San*
ancisco: Chronicle, 1995, 168 pages, $50.

viewed by Peter Katz

first glance, *Parallel Utopias* looks as if it
ght be yet another style book, like the
ny glossy volumes that try to encapsulate
look of places from Ireland to India. But
er reading it, one realizes this book is a
ch more ambitious effort. It compares two
mmunities—Sea Ranch, California, and
aside, Florida—that have become touch-
nes for new-town planning in two different
s. In so doing, author and photographer
hard Sexton wants us to understand each
ce as more than just a collection of houses.

e lavish photographs make a compelling
ual argument for both places as ideal com-
nities. But after reading Sexton's three
ays and those of sociologist Ray Olden-
g and architect William Turnbull, I'm left
ndering whether both, or just one of the
ces in *Parallel Utopias* has succeeded in
"quest for community," the challenge
ndly posed in the book's subtitle.

a resident of San Francisco, I've grown
ustomed to hearing criticism that Sea
nch "isn't what it used to be." Invariably
gripe is about overbuilding. During a
ent visit, I was relieved to see that Sea
nch, which was masterplanned by land-
pe architect Lawrence Halprin in the
0s, looked better than these comments
ld have suggested. But I was struck by a
icism noted in *Parallel Utopias*—that Sea
ch is dependent on the automobile. Says
ton of Sea Ranch, "distances are great
all practical errands require a car." As a
ult, the development did not convey much
n outward sense of community.

ther problem with Sea Ranch relates to
expectations of those who have purchased
es in the development. Sea Ranch was
keted as a place where one can live sur-
nded by nature. Yet with the passage of
e, residents are increasingly surrounded
by other nearby homes. The sense of privacy that was promised to the first buyers is diminished with each new home that is built. This seems an inevitable consequence of a design ideology that can only work at unit densities far lower than those of Sea Ranch.

Like most houses at Sea Ranch, the Teel House (below), designed by Jeffrey Teel, tries to nestle into the landscape, while Little Sand Pine Lodge in Seaside (bottom), by Richard Gibbs and Randy Harelson, addresses the public realm of the street.

Seaside, started some 20 years later, follows a different design ethos. Patterned after traditional small towns, Seaside's buildings assert themselves by shaping the public space of the streets and squares they face. Seaside is a place that seems to improve as it reaches full build-out. The few unbuilt lots that remain between homes read like missing teeth—gaps in the urban fabric. That is one reason why the town requires construction of a home to start within two years of the sale of a lot. Beyond its "look," Seaside seems to function like a real small town (albeit an upscale one), with everything reachable on foot.

Much has been written over the years about both Sea Ranch and Seaside: the philosophies that shaped them, the affluence of their residents, and the difficulty of applying the lessons of such second-home communities to year-round ones. *Parallel Utopias* captures much of that discussion. As such, the book is a welcome addition to the larger debate about community design now taking place.

But it's hard to reach a conclusion regarding the value of these projects as models for emulation based solely on what Sexton provides us. The Sea Ranch, for all of its beauty, fails in my estimation as a true community because of the ideas about planning and architecture that prevailed when it was started. Seaside, on the other hand, is the product of an era that is just now coming to appreciate the connection between physical design and the making of true community. ■

r Katz is the author of The New Urban-
: Toward an Architecture of Community.

Out-of-Body Experience

Flesh and Stone: The Body and the City in Western Civilization, *by Richard Sennett. New York: Norton, 1994, 431 pages, $27.*

Reviewed by Andrew Anker

In *Flesh and Stone,* Richard Sennett traces the development of the Western city from Periclean Athens to contemporary New York, making stops along the way in Hadrian's Rome, early-Christian Rome, medieval Paris, Renaissance Venice, Revolutionary Paris, and E.M. Forster's London. The journey is long, but Sennett does not attempt a sweeping history of the city; rather, he follows a single, continuous thread of urban life—the human body and its relationship to urban space. He finds that the thread changes over time, but never breaks.

Sennett's decision to use the body as the focus of his discussion is a way of making us see those groups that the dominant culture tends to render invisible. For Sennett, the body is an obvious locus of investigation because it is there that differences of gender, age, and race are most clearly recognizable. Western society's repeated attempts to repress or ignore the body, often in favor of a one-size-fits-all rationality, can be seen in this light as a desire to repress difference.

In a chapter entitled "Fear of Touching," Sennett explains that the Jewish ghetto in Renaissance Venice was not simply an attempt to suppress alien religious beliefs. More importantly, Venetian authorities created the Ghetto Nuovo to isolate the non-Christian body. Fear of the outsider's or the "Other's" body found physical form in the Ghetto which, located on its own island and surrounded by a perimeter of buildings, could readily be cut off from the rest of the city.

[illegible] with other buildings and spaces Sennett discusses in *Flesh and Stone,* one can certainly interpret the Venetian Ghetto from perspectives other than that of the body. But [illegible] offers an insightful, alternative [illegible] one that achieves its force through [illegible] uncovering of bodily traces [illegible] In Venice, for instance, he relates the creation of the Ghetto to a generalized repression of the body stemming from the city's devastating military defeat at Agnadello in 1509. Blaming the loss on their citizens' sexual decadence, the Venetian Senate voted to limit displays of sensuality by regulating jewelry and clothing. But if the rest of Europe viewed Venice as a Babylon by the lagoon, Venetians saw the source of the decadence in a Jewish community about which tales of promiscuity circulated freely. Sennett explains, "The Venetian attack against the Jews intertwined with this revulsion against bodily sensuality." The Ghetto was the constructed means of preventing that sensuality from "infecting" the Christian population.

While Sennett's reading of the Venetian Ghetto tells a story of one people's repression of another, *Flesh and Stone*'s greatest strength is in reminding us that our culture's tendency to ignore the body hurts us all. In medieval Paris, Sennett locates the beginnings of "the duality which marks the modern city" in the conflict between a desire for individual freedom in the economic realm and a craving for religious community. Here again the body figures prominently, for it is through compassion for the bodies of others, for their pain and struggles, that people create community. Cut off from bodily sensations, focused only on our own comfort, on our own freedom of movement, we are reduced to passive spectators of the urban scene. For Sennett, it is a position in which we remain isolated individuals, cut off from our fellows.

But Sennett does not see our isolation as inescapable, and *Flesh and Stone* is, in the end, guardedly optimistic about regaining a sense of urban community. For while the body is often the focus of repression, it's also the site of resistance—Athenian women retreated to ritual spaces to celebrate their bodies' power, and Venetian Jews retreated to the Ghetto where they were free to study and pray. In the final chapter, Sennett looks at multi-cultural New York and finds that difference does not preclude indifference. For in order to feel compassion, to experience community, it is not enough to be in the presence of others. We must first recognize our own incompleteness, an incompleteness that Sennett finds located in the body.

[illegible] professor of architecture at the University of Arkansas.

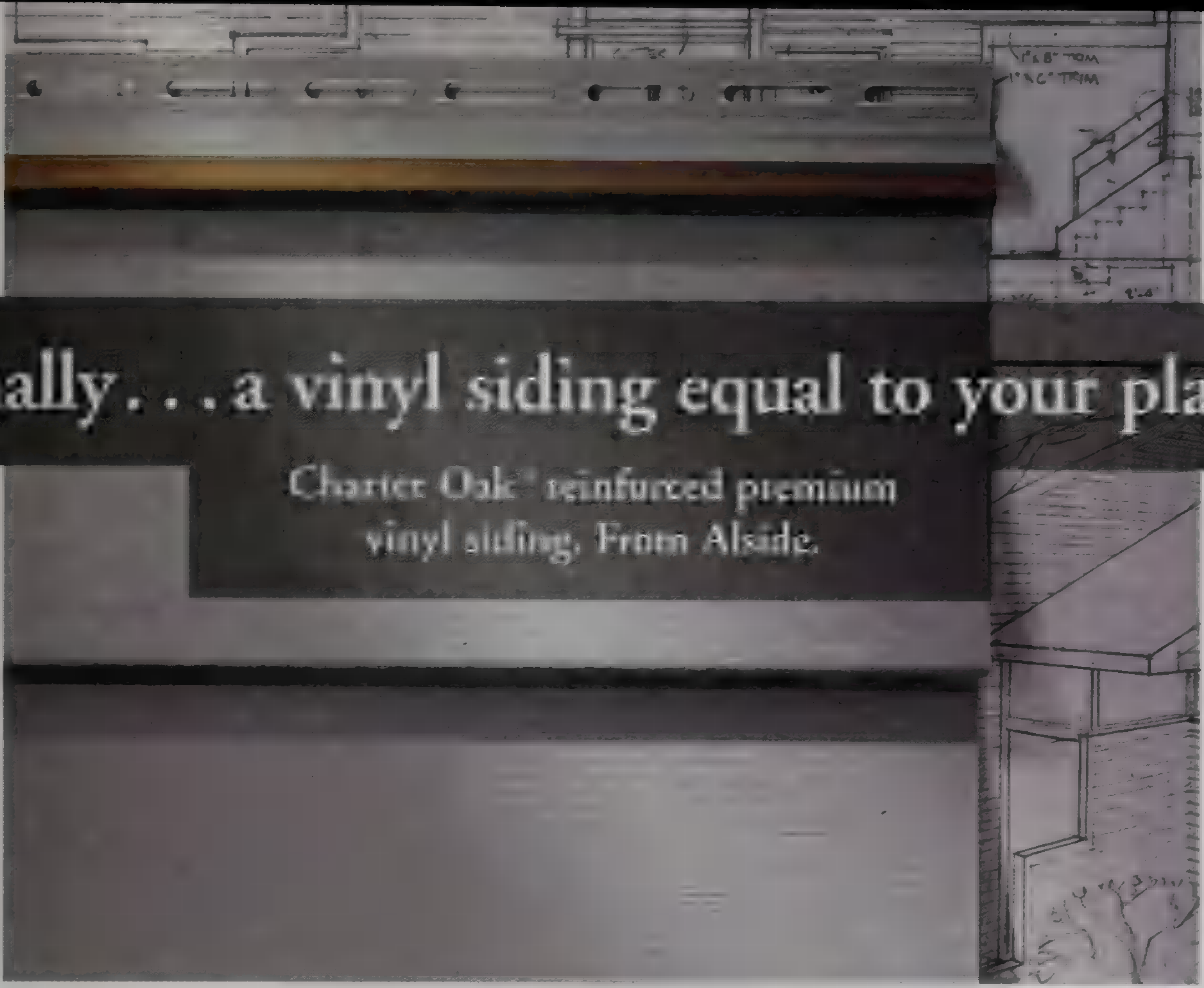
Briefly Noted

John M. Johansen: A Life in the Continuum of Modern Architecture, *by John M. Johansen. Rockport, Mass.: Rockport, 1996, 172 pages, $40 (paper).*
Like his Mummers Theater in Oklahoma City—with its boldly colored, angled bridges—this book on Johansen's life and work is most impressive when it is making connections. Inspired by sources as diverse as Marshall McLuhan, Classicism, and soap bubbles, Johansen has spent 50 years desig ing surprising buildings and wondering how things like ecology, density, and magnetic le tation might affect architecture. The book is part monograph on his work and part rambling discourse on the subjects that interest him. A gracious introduction by Richard Rogers and an analytic essay by Lebbeus Woods round out the book's offerings. *C.A.*

Views of Rome, *by Steven Brooke. New York: Rizzoli, 1995, 224 pages, $60.*
In the tradition of 17th- and 18th-Century view painters, or *vedutisti,* American photographer Brooke has recorded his impressions of the Eternal City. His cool but romantic black-and-white photographs are accompanied by the same (or at least similar) views a captured by Piranesi 200 years earlier. The book also includes photographs of modern Rome and three scholarly essays.

Designing with Nature: The Ecological Basis for Architectural Design, *by Ken Yeang. New York: McGraw-Hill, 1995, 256 pages, $35.*
Ken Yeang, the Malaysian architect who has earned an international reputation designin highrise buildings that respond to the tropi environment, began this book while earning doctorate at Cambridge University in the 1970s. The book lays the theoretical foundation for a green architecture, which Yeang h been practicing as well as preaching for mo than two decades. Mostly text, the book cou have benefited from more photographs and illustrations.

The Architect's Studio Companion: Rule of Thumb for Preliminary Design, Secon Edition, *by Edward Allen and Joseph Iano. New York: Wiley, 1995, 496 pages, $55.*
A "desktop technical advisor," this book is a use-ful resource on structural, mechanical, electrical, egress, and other building system



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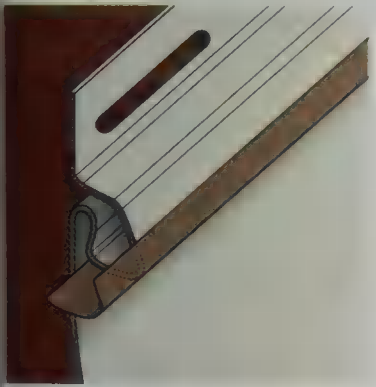

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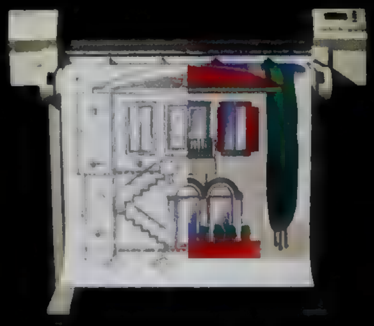

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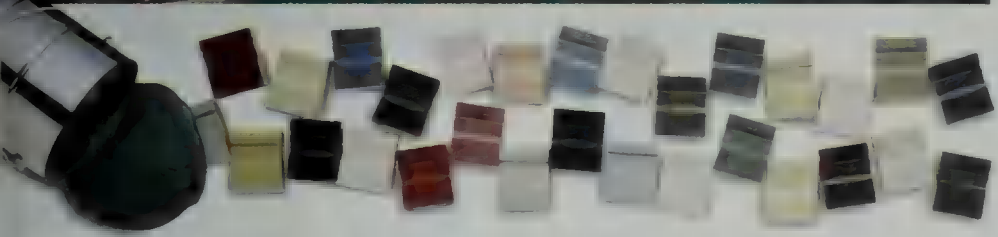

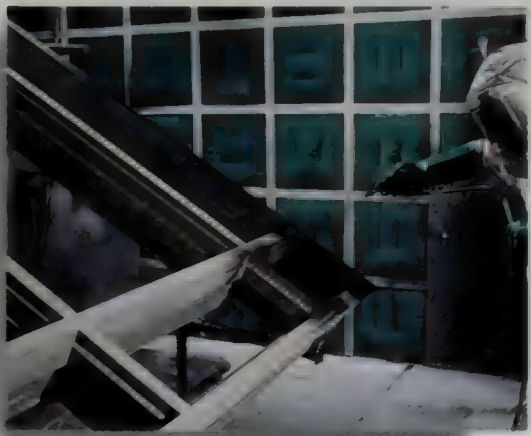

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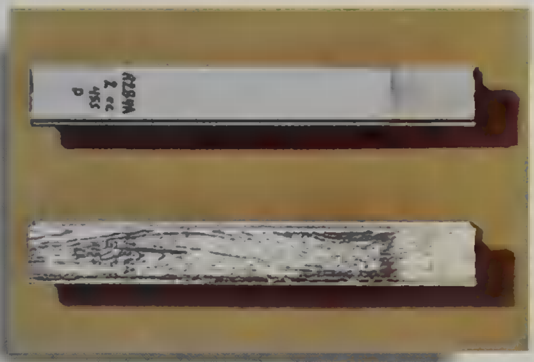

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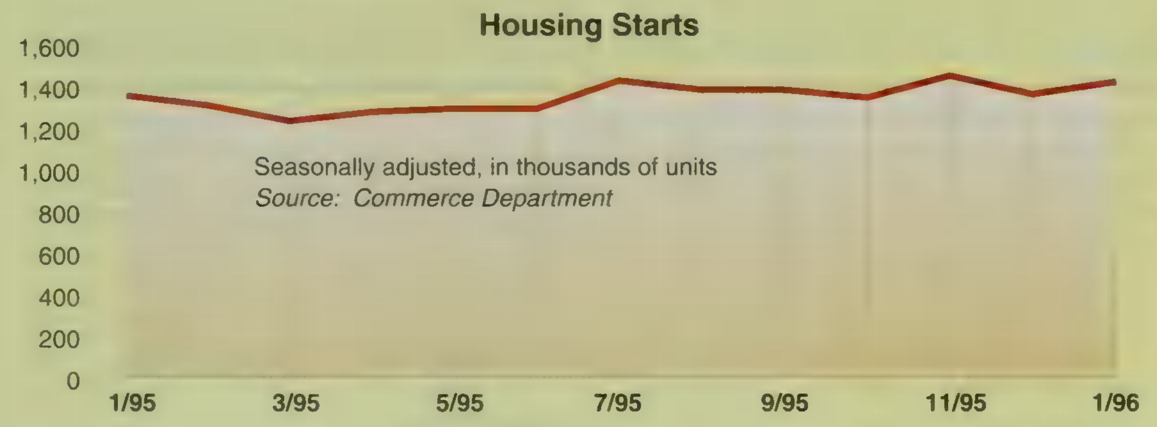
ith new housing starts remaining close to a 5-million-unit annual rate in the last few onths, home builders are finding consistent-high demand, if little new growth. The deral Reserve may continue to push inter-t rates downward, but there might not be ough unmet demand to spur much higher arts. New multi-family units remain near a storically low percentage, but the imminent d of the apartment glut will begin to boost tivity, helped by an aging population and e trend to smaller household size. ■



Seasonally adjusted, in thousands of units
Source: Commerce Department

esales dip [illegible] economic anxiety

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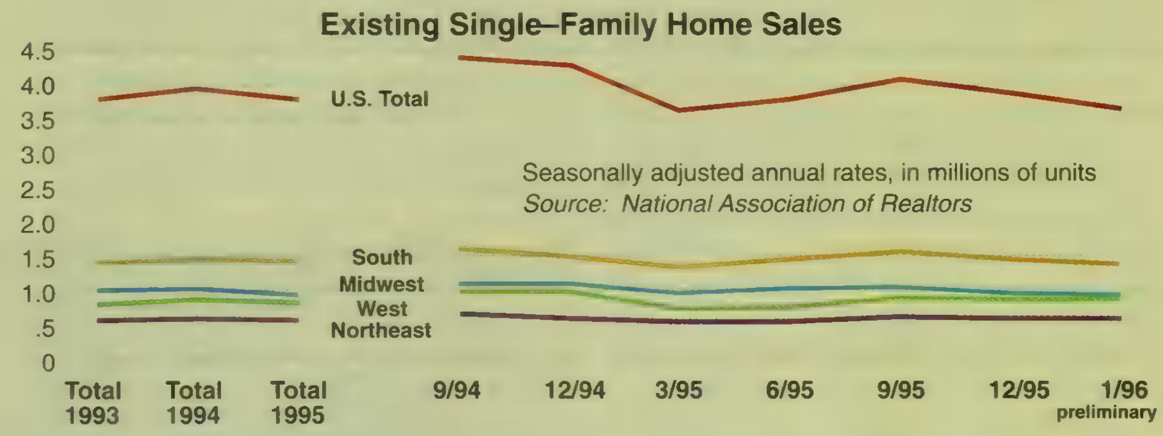
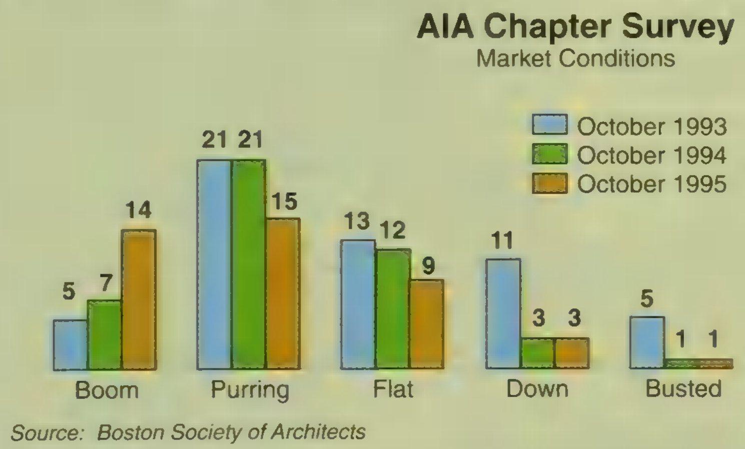


Seasonally adjusted annual rates, in millions of units
Source: National Association of Realtors

hat [illegible] difference a year makes

impressive 14 areas reported a booming b market in Boston Society of Architects' nual survey of AIA chapters. That's twice many as last year. "Send resumes!" urges uth Carolina AIA. Two years ago, 16 areas ported conditions as "down" or "busted." ly four found themselves in these cate-ries this year, with only Santa Barbara, lif., calling itself "busted." Oklahoma has omed for three years running; other hot eas on last year's and this year's list clude Arizona, Utah, and Mississippi. ■



Source: Boston Society of Architects

Hottest Markets:
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Middle Tennessee
Colorado
Mississippi
Georgia
Utah
Iowa
Oklahoma City
Montana
Nebraska

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e Profession This Month

e Electronic Hearth 38
novative Kitchens and Baths 45
ftware Reviews 59
oduct Briefs 62

Short Takes

- **50,000 new Hilton rooms:** With rising room occupancy, hotel chains are building again. The Hilton Hotels Corporation expects its room inventory to increase 54 percent globally by 2000. "The mid-scale category is the fastest growing," says Hilton.
- **Empowering inner cities:** The Empowerment Zone and Enterprise Community initiatives, administered on the federal level by HUD, are spurring inner-city investment through tax credits and other means. Information is now available on the World Wide Web: http://www.ezec.gov.
- **Record office-furniture shipments:** Surprising commercial-office experts, office-furniture shipments were up 7.4 percent and reached record levels in 1995. According to a survey by Kennedy Research, dealers, designers, and facilities managers expect flat or slightly dipping shipments this year.
- **PM Salaries:** Median earnings for project managers in construction ranged between $73,000 and $80,000, according to the Project Management Institute (610/734-3330). ■

A Warm Welcome for the Electronic Hearth

By Michael J. Crosbie

They're in virtually every up-scale residence, they're not going to go away, and, if anything, they are getting bigger and more complicated by the minute. While not the seismic force that indoor plumbing and electricity were, the continuing elaboration of television, VCRs, and stereo systems is affecting the design of American houses.

What's more intimidating is the breakneck speed with which audio/visual technology is changing. Even if you devote a good share of your professional life to following home-electronics trends, it's impossible to keep up with new components and improved performance, not to mention the newest integrated total-home systems that permit clients to control lighting, interior climate, and security at the touch of a keypad. "The technology of the equipment you're designing for is usually obsolete as soon as the design concept gels," says Mark Sexton of Krueck & Sexton Architects in Chicago. The best approach is to hold open the design of the media center—where equipment is fabric-shrouded or set within cabinetry—or "home theater" (typically a separate "media" room) for as long as possible, designing-in enough flexibility to accommodate components the dimensions of which are subject to change.

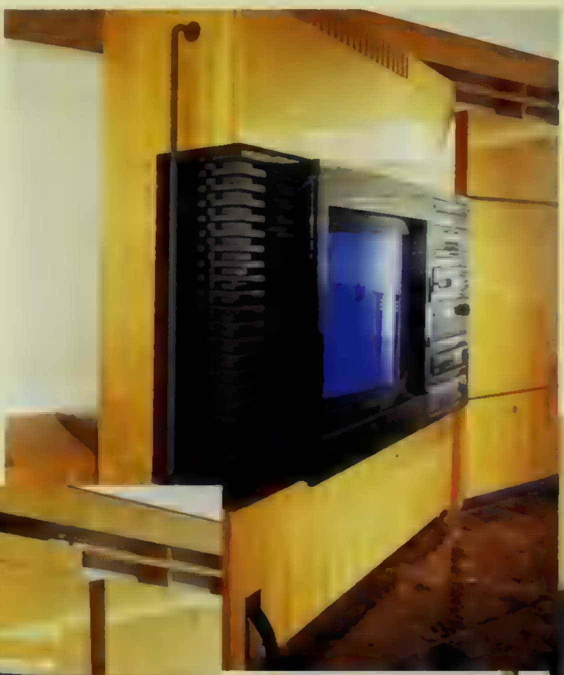
A former editor at Progressive Architecture, *Michael J. Crosbie is an architect with Steven Winter Associates, a building systems research and consulting firm in Norwalk, Ct.*

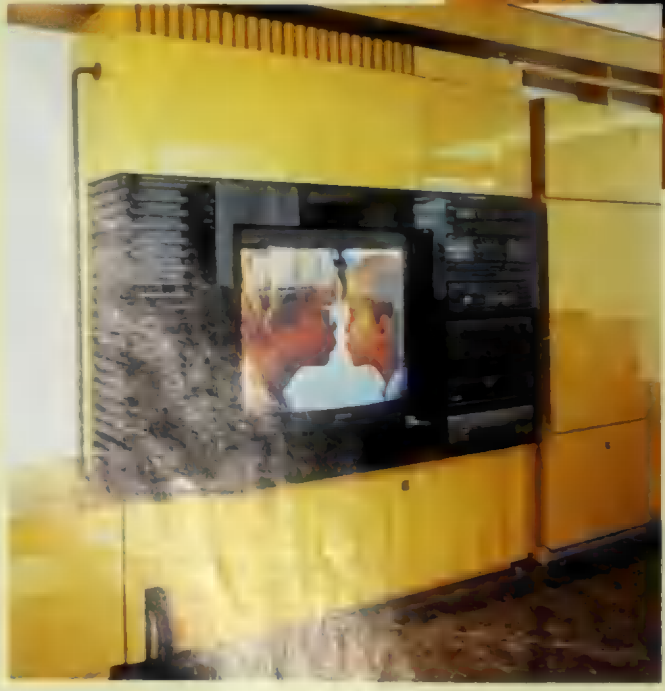
Getting help

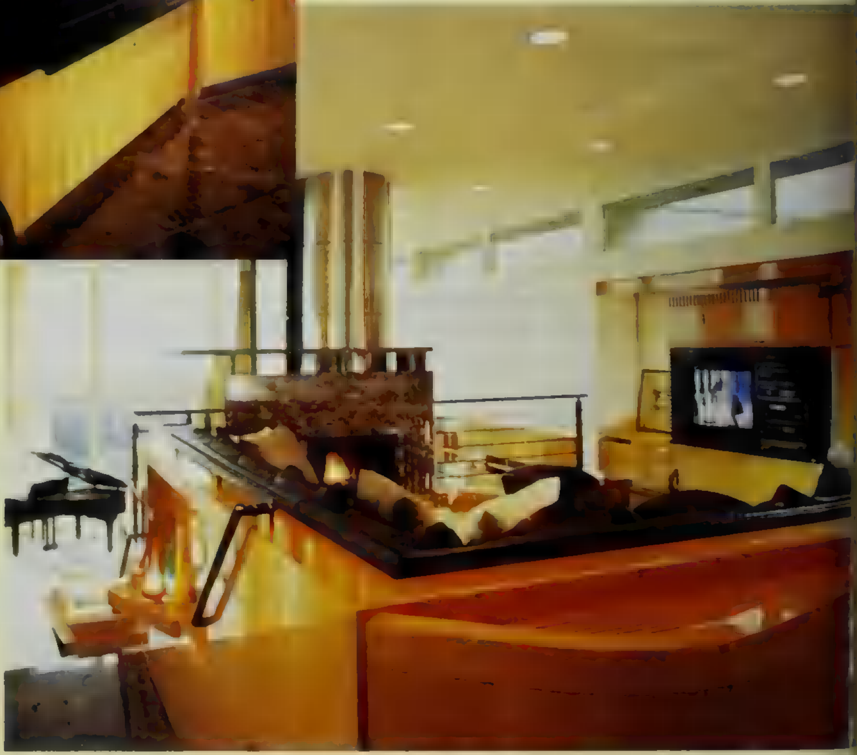
With these unknowns, how is the architect to wrestle the technology into a form that doesn't overpower or compromise the architecture? Luckily, an entirely new class of consultants has emerged from the jet-stream of audio-visual advancement. Electronics consultants have for years helped clients pick just the right sub-woofer. But recently their role has expanded. Now they integrate entertainment components with other electronics; find appropriate locations for equipment; determine the controls, electrical-load demands, and any special hvac requirement and coordinate installation with other trades

"We provide end-to-end service for architect and their clients," says Mitchell Klein, presi dent of Media Systems, a Boston-based electronics consulting firm, "in terms of education, and also design and engineering services that complement the work of the architect." Klein, a member of the Custom Electronic Design & Installation Associatio (CEDIA), a trade group, is quick to point ou that the design of spaces, cabinets, and othe enclosures for home-media systems remain the purview of the architect. "Once the clien articulates what he wants in terms of home electronics, the architect calls us—instead o passing out," says Klein, "and we satisfy the electronic needs within the parameters of th architecture."

Though firms such as Media Systems are often dealer-installers, a good one should offer architects and their clients far more than an electronics retailer, who may have limited equipment selection, and perhaps







Reconciling dual "hearths": *Mounted on wheels (below left), a media unit designed by architect Mark Stumer swivels into viewing position when needed (right and below right).*

lectronics consultants can help manage the burgeoning area of me electronics, but architects must help clients avoid the "How do I rk this clicker?" question $90,000 later.

le expertise in coordinating installation or egrating the systems with hvac and light-g. Such consultants are usually paid a fee, sed on the scope of work, and are hired by client. They can also work as part of the sign team, paid through the architect. lake sure they can read drawings," warns rk Stumer of Mojo Stumer Architects in slyn, N.Y., who has designed a number of dia centers. "I've worked with dealers who n't know how."

umer and other architects point out that s the architect's job to help match the stem selected to the level of technical com-xity the client is comfortable with. Dealers ually push the latest models festooned with ery bell and whistle. "I had a client who d a $90,000 A/V system, and he couldn't use half the stuff," remarks Stumer. "If you don't use the equipment every day," notes Stumer, who has a media center in his own home, "you'll forget how to operate it." Architect Sexton refers to this as "the VCR problem," citing the amusing statistic that 50 percent of households with VCRs have a blinking "12:00."

Call early

Making the best use of an electronics consultant depends, as it does with most consultants, on when they are brought into the design process. Both architects and A/V experts agree that in the case of home electronics the earlier the better. Architects who have designed a number of media centers now consider questions about the client's electronic lifestyle just as important as the number of bedrooms and the size of the kitchen. Once the client's interests are understood, it's not too early to visit an electronics consultant's showroom. "We can show the kind of equipment that might be involved," says Media System's Klein, "and help define the scope of the project."

Command Center: *A keypad "super station" in a project designed by Holt Hinshaw Architects controls lighting, mechanical systems, even the swimming pool as well as a sophisticated home theater system. The red-stained Okume-wood veneered panels conceal mechanically ventilated space for 17 amplifiers.*

As the project moves through design development and into construction documents, the electronics consultant should be kept apprised of such details as media-center cabinet design, the building's structural layout (which might conflict with recessing equipment into a wall, or exhausting heat generated by components), lighting systems, and electrical loads.

During construction and punch-listing, the consultant can help the architect work with the general contractor to coordinate electrical, hvac, and finish-carpentry trades. Typically the consultant installs the electronic components and special equipment such as motorized screens and projection-television units. The consultant needs to be involved throughout construction to field architect and contractor questions.

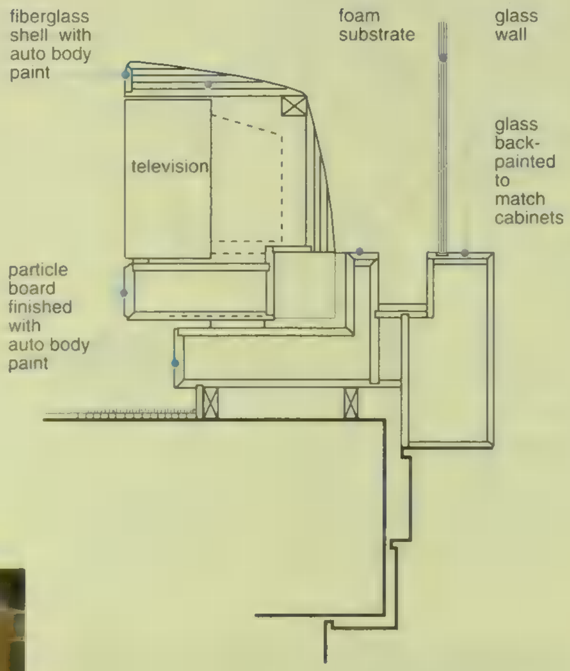
Designing for the electronic hearth

Unless a client requests a separate room dedicated only to home electronics, chances are that the media center will share space in a family room, living room, or master bedroom. Traditionally, such social spaces have as their focus a fireplace, a view from a prominent window, or a conversation area defined by furniture placement. The media center introduces another focal point, one that doesn't dovetail easily with the others.

"Architecturally, a fireplace usually takes the central position in a room," observes Klein, "but the video screen needs to be the focal point. We battle this problem constantly." Klein adds that the "video hearth" will be used daily, unlike most fireplaces. Shoving a video screen into a corner doesn't permit good viewing angles, and an array of electronic components may not discreetly fit into the masonry mass of the fireplace.

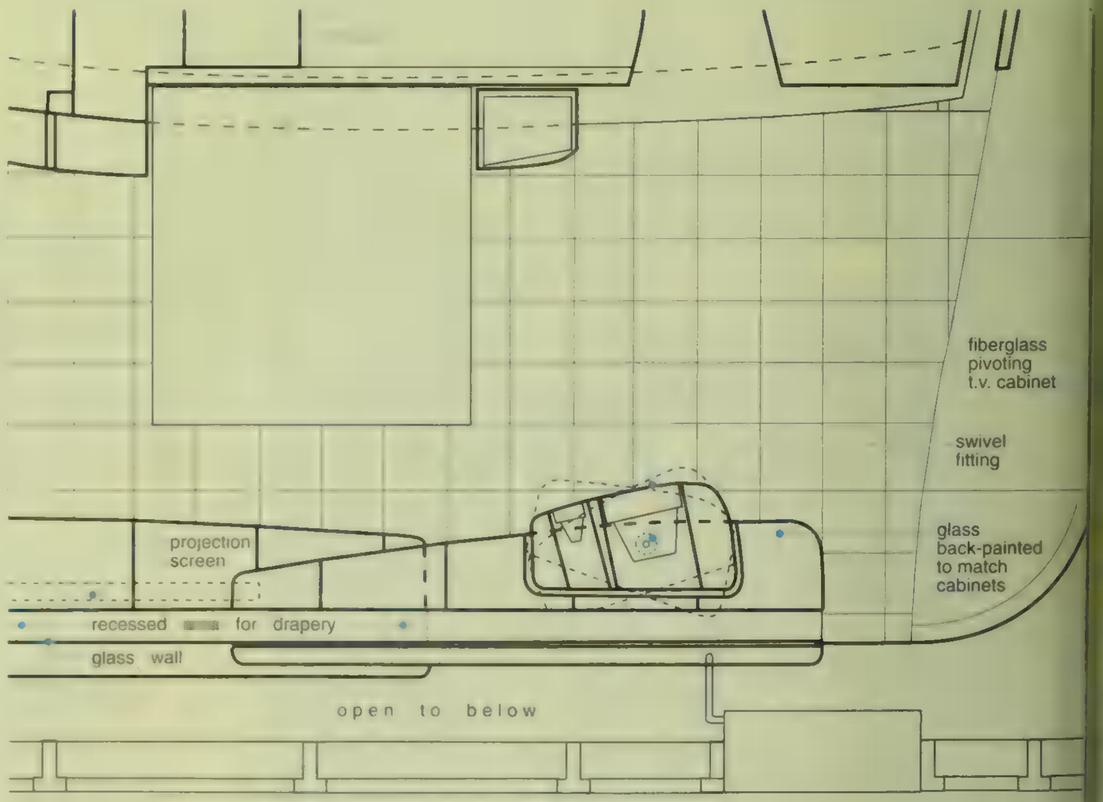
It may be possible to split the room's focal points, for example. In his design of a house in Venice, Calif., Steven Ehrlich placed a fire-

From body shop to bedroom: *For a Chicago apartment, Krueck & Sexton took a sculptural approach, matching other cabinetry (below) in enclosing home-video equipment. The curving shell surrounding four monitors (opposite) was originally conceived in plywood with high-gloss paint. A cabinetmaker with auto-body background built the units with a fiberglass shell over foam to match the finish; high-gloss car paint was applied to particleboard cabinets. The tops are 3/8-in. glass back-painted to match.*


fiberglass shell with auto body paint
foam substrate
glass wall
television
glass back-painted to match cabinets
particle board finished with auto body paint

place on one wall, arranging furniture aroun it. At 90 degrees, centered within a space divider, is wood cabinetry enclosing the media equipment. The furniture arrangement permits comfortable viewing of a fire o *The Flintstones*. When the cabinet is closed, the fireplace is the room's focus. Opening the cabinet to use the sound system, or lowering a retractable screen from a valance above th cabinet, shifts the focus to the media center. What appears to be a small coffee table is actually a television projector.

Another conflict arises in window placement. Rooms with unshaded window walls, skylights, or greenhouse additions create media center havoc. Not only will glare obscure video screens (especially rear-projection ones), the hard, acoustically reflective surfaces can reduce a luminous sound system to harshness. Programmable controls, of cours can automatically draw draperies and lower electric lights to TV-viewing levels. Mark



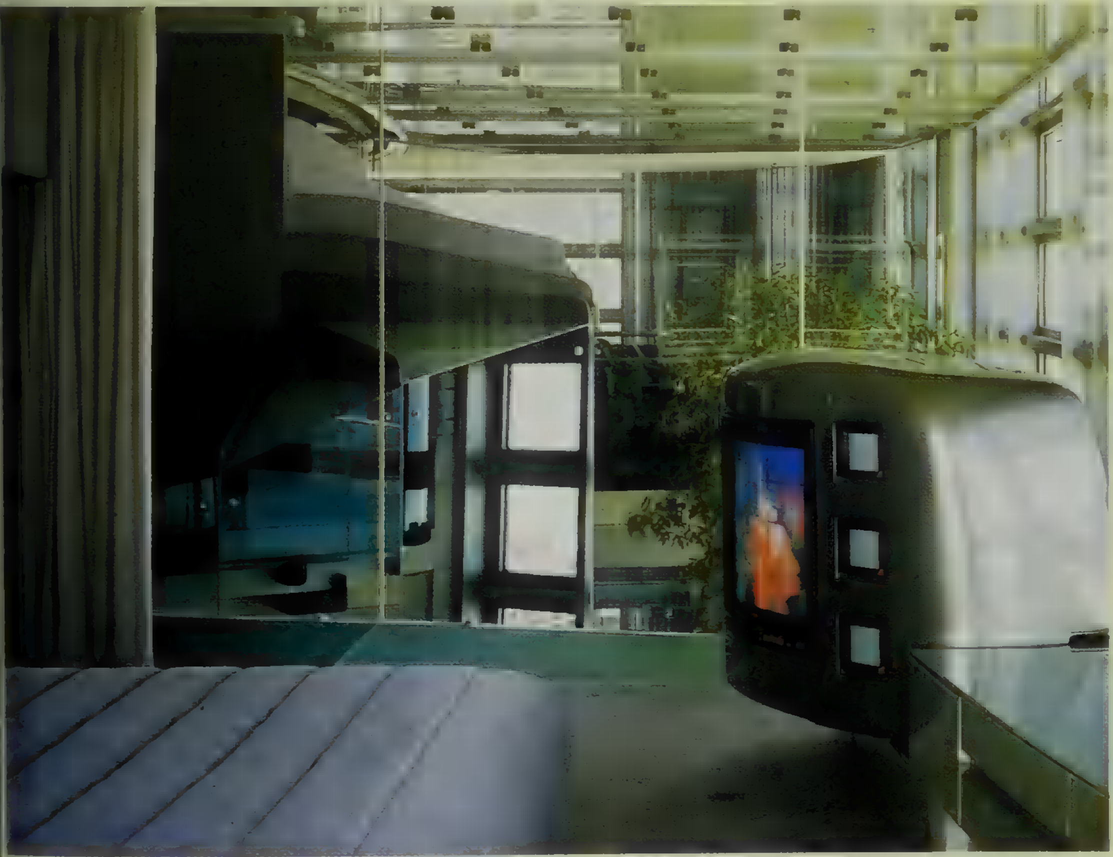
photos this page and opposite

umer believes that it is possible to strike a
lance between conflicting requirements.
e media cabinet Stumer designed for one
use is hinged; the unit swivels outward to
e seating (previous pages). Thus viewing
't compromised and a fireplace can back
to another one on a lower level. "The fire-
ace," says Stumer, "also acts as a break
tween the seating area and a window view,"
lping veil the screen from back light.

reens should not be placed adjacent to
ndows, where sunlight will wash out the
age. Stumer and other architects experi-
ced with these systems try for a mix of
oustically hard and soft surfaces, with
erstuffed furniture, rugs, and window
eatments to reduce reverberation. The con-
ls on high-end stereo components can
en compensate for unusual room shapes,
t if highest quality sound is what's desired,
en a room shaped for good listening (such
a shoebox for surround sound) is best.

Making space in cabinets and closets
An age-old rule of house design is that you can never have enough storage, and media centers need lots of it. "Architects are typically shocked at how much space audio/visual equipment requires," says Klein. A rule of thumb for audio components is that they are generally 17 to 19 in. wide, and need 24 in. of usable depth. Access is also critical to install, wire, and service components. Heat generated during operation can shut down a system if it is not properly ventilated. Some cabinets may even need exhaust fans. Klein says that equipment can be located in an adjacent space or recessed into a closet, provided that there is adequate access to service it.

Within rooms, cabinets are the most popular way to enclose electronic equipment, yet they're inherently in conflict with their contents, which work best when not shrouded. The A/V consultant's impulse is to put the equipment in racks and let the technology hang out—"the Pompidou approach," as architect Sexton describes it, "which sounds great, but looks disturbing." Sexton has designed enclosures that make televisions sculptural objects within the living space (below and opposite). Other approaches: build shelves permitting televisions to be pulled out and swiveled, or place speakers on wheels behind movable panels so that they can be swiftly rolled into place for best listening. Racks inside cabinets ease component service and replacement. To reduce the apparent size of cabinets, architect Franklin Salasky, of B-Five Studio in New York City, suggests bowing their fronts to diminish the depth at the ends. He also includes custom-designed storage space for video-cassette tapes and compact disks.



With surround-sound systems, an array of speakers is called for. Some speaker models can be discreetly recessed into ceilings, walls, baseboards, valances, and coves. Paul Holt of Holt Hinshaw Architects, in San Francisco, has strategically placed speakers inside free-standing sculpture. Wireless remote controls reduce the need for fixed-in-wall controls.

Turning on the whirlpool from Jakarta
Today, only the most well-heeled and electronically savvy clients are asking for totally electronic homes, with fully integrated systems that include monitoring security and life safety. Such systems can adjust the lighting, draw the shades, program the sound system, lock the front door, and turn on the air conditioning from a single keypad. But as computer and control technology advances and becomes cheaper, such sophisticated innards may one day be found in all homes. To make a house appear occupied during a week-long vacation, for example, scenarios for lights, shades, and sound can be preprogrammed—with a different pattern every day. Sexton observes that this kind of deterrence is preferable to relying only on alarms and other physical security measures.

Continued on page 125

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ndustrial Influences

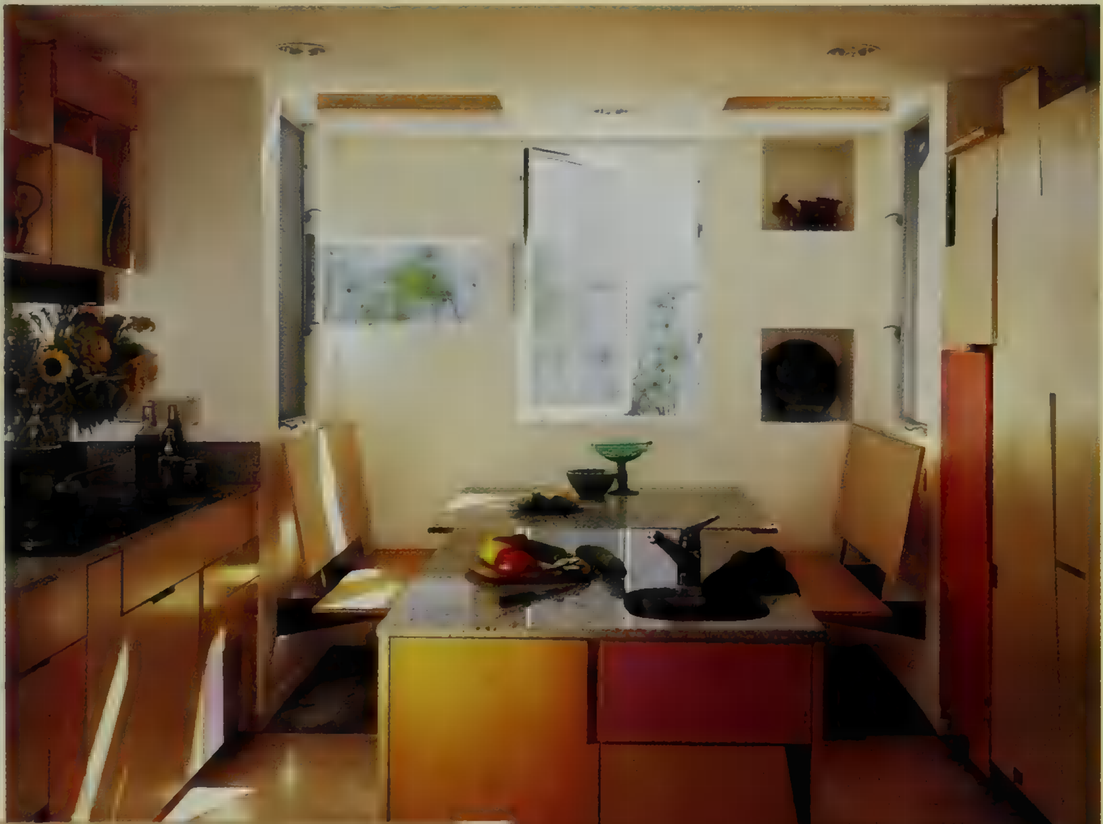
A portfolio of kitchen and bath spaces demonstrates the architectural impact of versatile industrial materials like stainless steel and concrete.

ight and Lively

r his family's half of the attached triplexes
designed for a steep site in Studio City,
alif., architect Jeffrey Tohl wanted a tropi-
l color scheme with a "1950s thing to it." In
e kitchen (right and lower left) he chose a
se-and-green granite countertop for the
arm, lively character of the stone, and
cked up green and ocher and lavender
ades as a color wash on the natural-birch
binets. Cut-outs, overlapped edges, and
rategically placed slots on the cabinet doors
rve as pulls, creating a smooth, unencum-
ered mural of natural wood—a composition
planes and colors. Not even the refrigera-
r has handles.

ne two bathrooms use light very differently.
n an upper level, the master bath (middle
ght) is flooded with sunlight from an end
all of windows. The two basins are wall-
ng sculptures, bracketed with natural-
rch storage units and topped with mirrors
t on wooden easels. The floor is Strata
een slate. Though the child/guest bath
wer right) is 11 feet below grade, sunlight
om a high clerestory window washes the
ed walls of the shower and bounces through
glass-block partition. The subtle hues from
e kitchen reappear in their bright and
ep-color versions in a collage of 4-in. accent
es from different kilns.

chitect: *The Architecture Studio—Jeffrey
ichael Tohl, designer; John Gormley, Mark
berson, Carl Welty, project team.*
urces: *Cabinetry: I&E Cabinets. Color
ish: Dunn Edwards. Granite counters:
ilker Zanger. Sink: Franke. Cooktop and
frigerator: GE (Monogram). Faucets: KWC.
aster bath—Sinks: Porcher. Faucets: Kroin.
ate: Eurocal. Guest bath—Tile: Dal-Tile;
nerican Olean; Monarch. Glass block:
ttsburgh-Corning (Decora). Sinks:
stings. Tub: Kohler. Laminate: Abet
minati. Radiant heat: Nu Heat. Faucets:
locchi. Switchplates: Leviton Mfg.*



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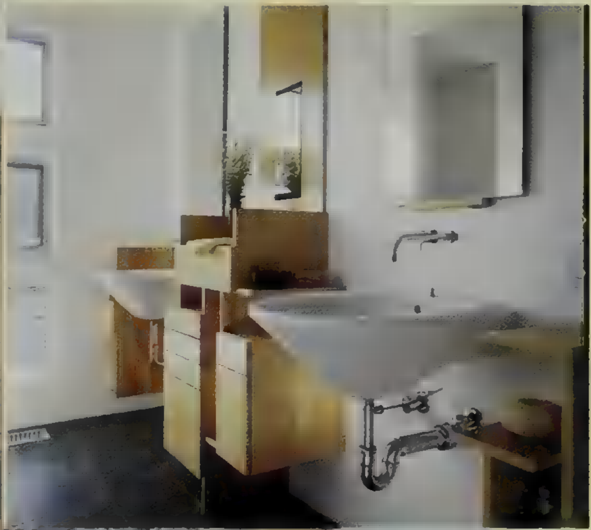
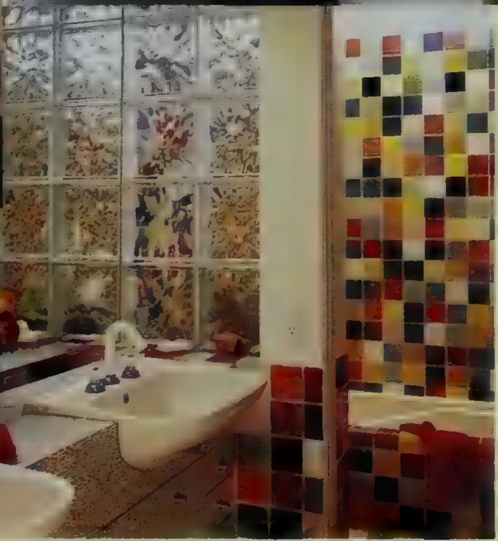
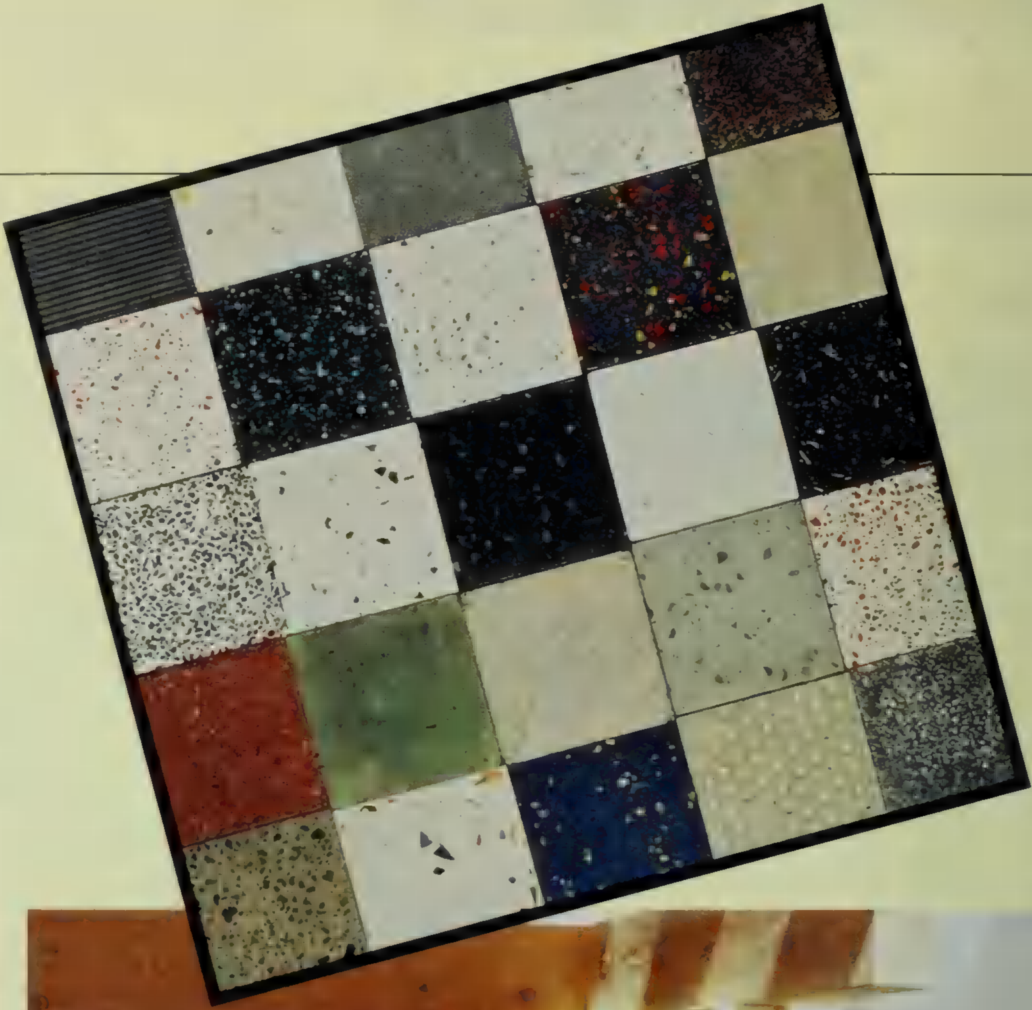


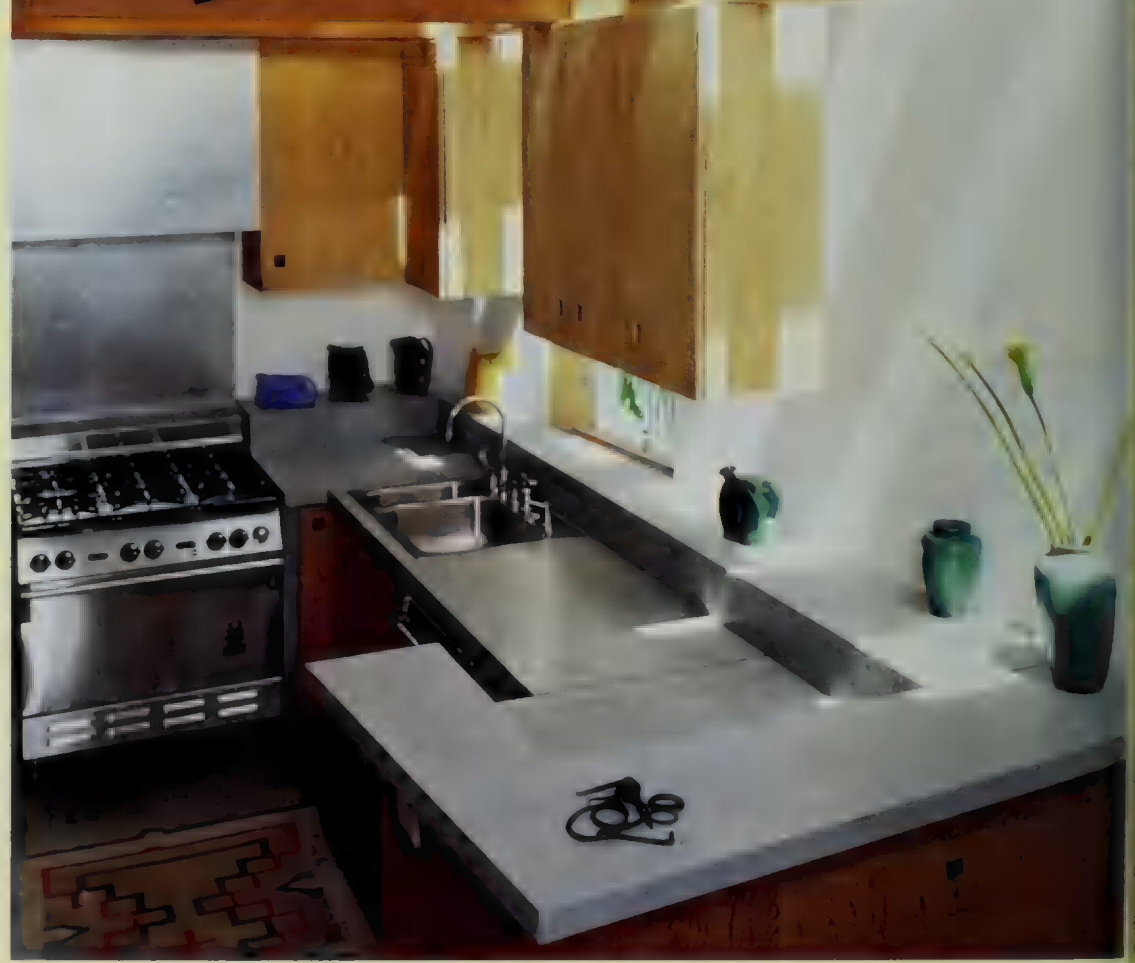




Cementitious

The client, an artist on a very realistic budget, wanted a warm, natural feel for this California kitchen. Santa Monica architect David Hertz had developed just the cost-effective, bucolic material: Syndecrete, a lightweight, fiber-reinforced precast that displays subtle variations in color and texture. The J-shaped countertop (lower right) illustrates some of its design potential. Hand-cast in the plant as a single piece, the two-in.-thick slab permits a substantial cantilever without reinforcement. Sealed and given a coating of liquid wax, the precast exceeds the requirements of the Ceramic Tile Institute's T-72 kitchen-counter stain test, resisting damage from red wine, grease, and other cooking ingredients. The 1/8-in. caulked joints needed where sections meet have been included in the design of the counter. Very slight, nonstructural shrinkage cracks and air bubbles contribute to the organic nature of the material. The checkerboard shows current color and pattern options offered by Hertz's company, Syndesis, Inc.

Architect: *David Hertz; Michael Rendler, project architect*
Sources: *Sink: Elkay. Range: Wolf. Faucets: Chicago Faucets. Countertop: Syndesis, Inc.*



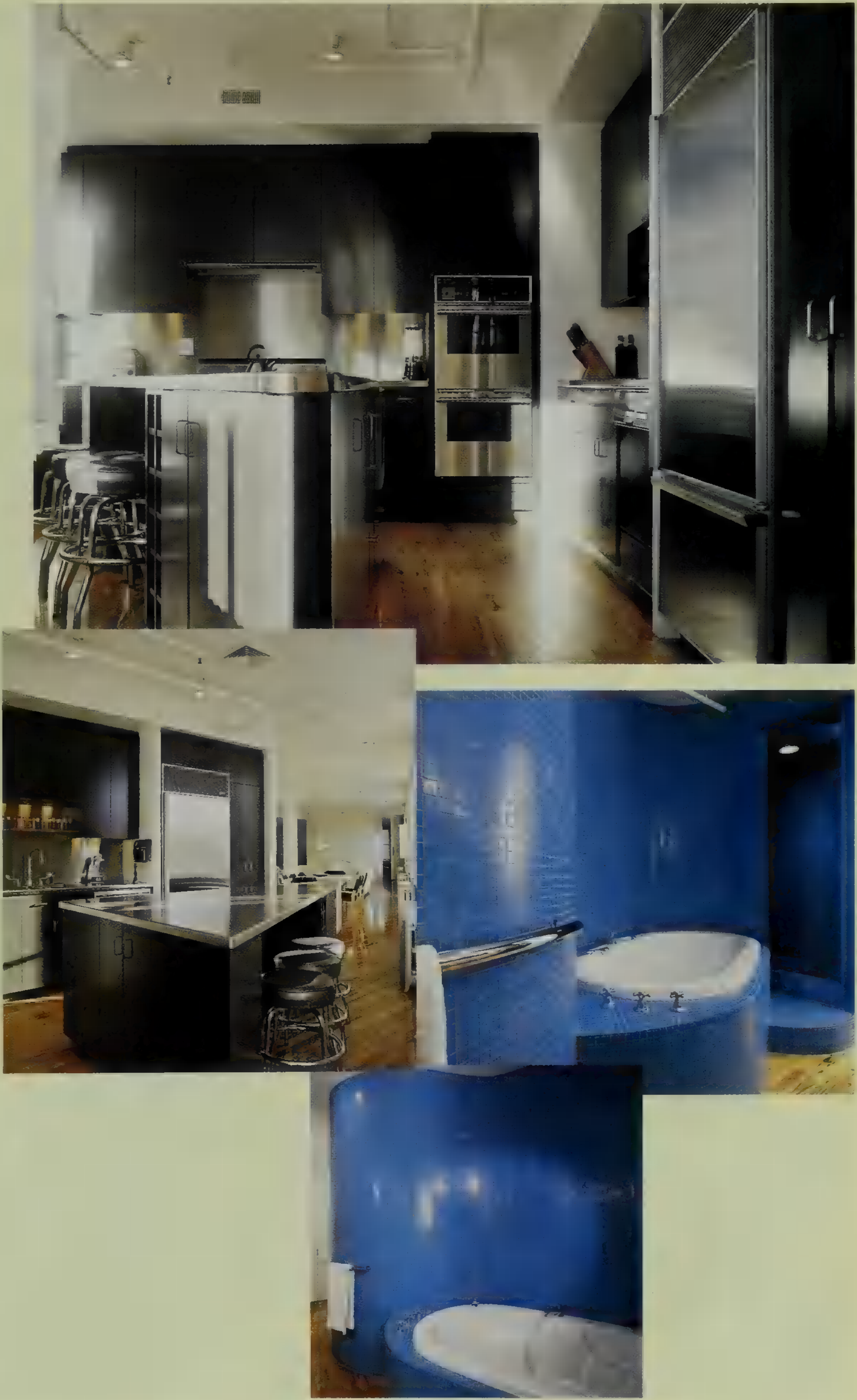
owntown

he clients, a young couple with an infant, anted a chic, New York look for their ribeca loft—but on a budget. Architect lexander Gorlin selected materials that eem more expensive than they are, such as e stainless-steel countertops, installed at alf the cost of stone. Cabinets appear to be ced in ebonized wood—but it's laminate stead.

he kitchen island (top photo, and inset, left) eplicates, in miniature, the footprint of the uilding, an old loft structure on Hudson treet. The steel on appliances, backsplash, nd counters emphasizes sunlight from the rge, west-facing windows. Counters, integral sink, and backsplash were fabricated nd "seamlessly" welded off-site, and each near section was installed in one piece.

he master bath (inset photo and bottom) is ucked behind a compound curve that forms art of the living-room wall. The imported e and custom stainless-steel towel bar llow this curve.

rchitect: *Alexander Gorlin, Architect; ffrey Feingold, project architect; Mark osenthal, job captain.*
[illegible] *Stainless-steel counters and binetry: James Ledger. Laminate surfaces: rmica Corp. (Storm). Paints: Benjamin oore & Co. Gooseneck faucets: Chicago ucet. Ovens and cooktop: Thermador. ange hood: Gaggenau. Drawer pulls: ugatsune America, Inc. Refrigerator: Subro. Undercabinet lighting: Alkco, Inc. iling fixtures: Lightolier, Inc. (Lytespots). th tile: Vetricolor. Shower light: Lightolier. ucet handles and tub filler: Jado.*



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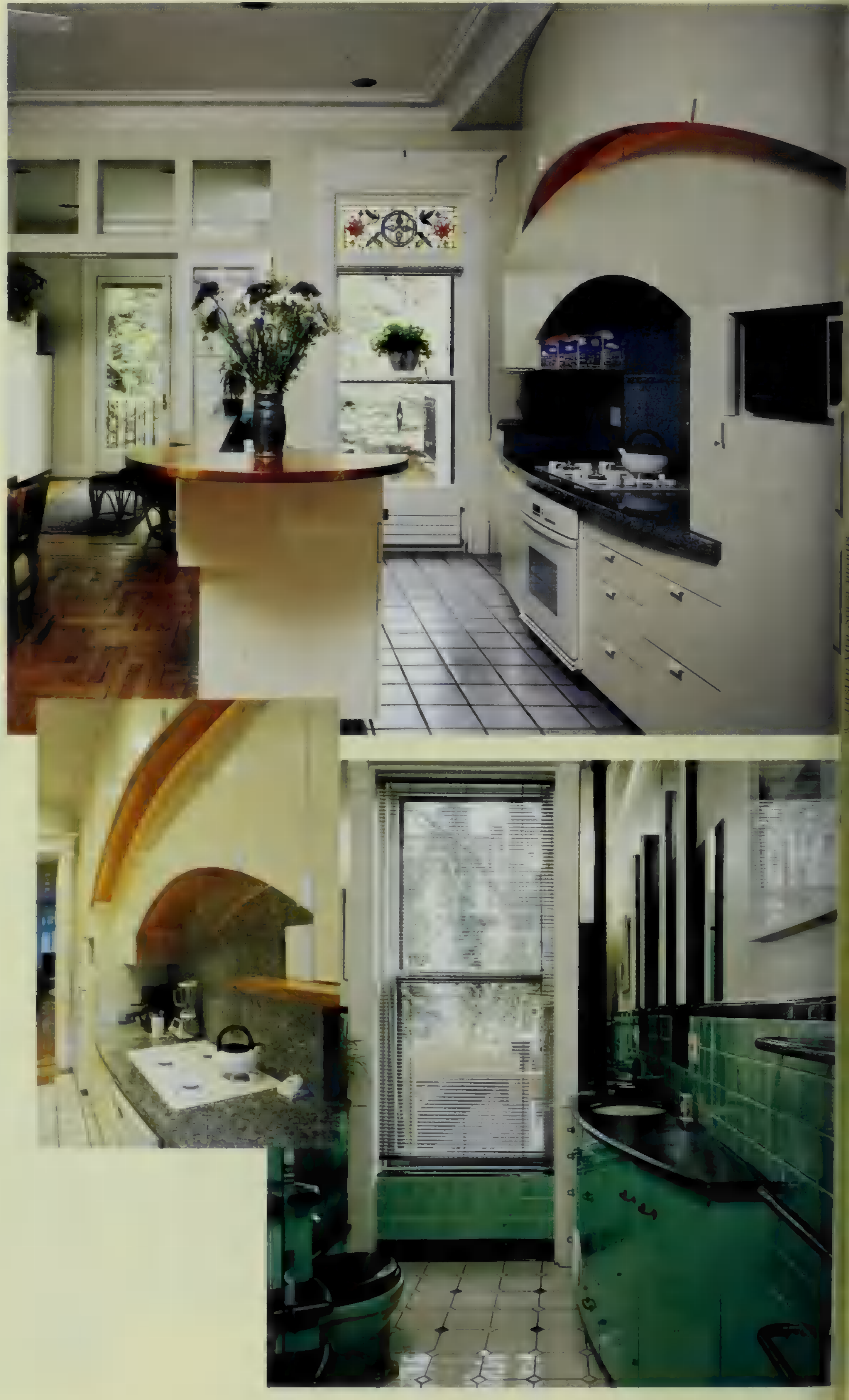
Down Home in Brooklyn

When architect Duo Dickinson helped the owners of this 1870s Brooklyn brownstone move the kitchen from the cellar to the high-ceilinged parlor floor, he also took away the bearing wall separating front and rear halves of the space, opening the room to direct view from the street door. In what he describes as a "passive/aggressive" approach, he placed the cabinetry with the cooking equipment along the long wall and painted it to match the existing Victorian trim elements, so the piece looks built in, "incised into the wall." But the curved counter and illuminated setback say "look at me," drawing the eye to the kitchen from the entry by catching reflections from the back window. The floor tile replicates the dimensions of the original parquet.

The English brown oak island is an art piece, with a curved, platform end that terminates the counter at the point closest to the living room. The granite surrounding the cooktop (inset) is a passive, neutral gray. Low-voltage lighting accents the upper curve of the cabinetry, which in turn echos the fireplace arch (not shown) and the serving island.

When the bath was renovated, the clients asked to keep the original green tile, so Dickinson salvaged that for the walls and selected new tile for the floor in the same Deco feeling. The curved vanity top widens to accommodate the sink, then curves back.

Architect: *Duo Dickinson—David Basilone, Bill Egan, job captains.*
Sources: *Cabinetry: Brookside Woodworks. Pulls: Colonial Bronze. Low-voltage accents: Lucifer Lighting. Granite: Stanstead (honed finish). Cooktop: Dacor. Refrigerator: GE. [illegible] kitchen and bath): American Olean. [illegible] Lutron. Radiator: Runtal. Sink: [illegible] Vanity counter: DuPont (Corian). [illegible]*

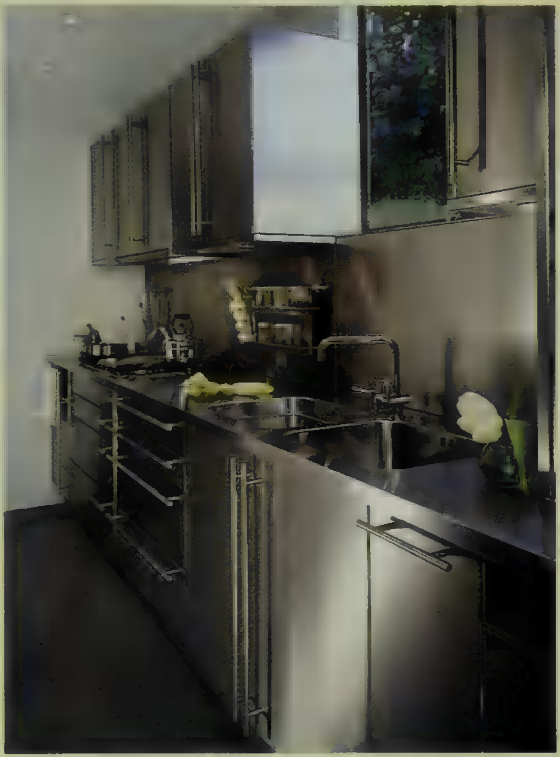


ransitional Kitchen

or a new kitchen in an existing space that
ts as the connecting link between the origi-
l Spanish Colonial house and a newer
droom/dining wing by architects Lubowic-
/Lanier [RECORD, April 1994, pg. 72-75],
e client asked designer Chris Tosdevin for
neutral palette. And as the president of
ulthaup (LA), Inc., he knew just what to
nsider: the almost flawless 18-gauge stain-
ss steel fabricated by this German
tchen-system manufacturer. Both designer
d client felt that stainless steel, when used
r its functional qualities—stain-resistant,
affected by heat, impervious to grease—
comes a warm, not cold material.

e steel-framed window, built to the same
-mm module as the cabinetry and placed to
e up with the upper cabinets, captures a
lective vista of tile roof, cypress, and
ugainvillea. A full backsplash fits under-
ath. Counters are set at a 37-in. height that
tter suits a taller American cook; the
tting board can be slid across the sinks to
crease counter space. The limestone floor is
e same jade-green used extensively in the
bowicki/Lanier addition, helping to tie the
w kitchen into the somewhat older wing.

esigner: *Christopher Tosdevin.*
urces: *Dishwasher: Miele. Cooktop and*
ens: Gaggenau. Refrigerator: SubZero.
binetry and plumbing fittings: Bulthaup
rp.



© *Jerome Adamstein photo*

Cabin on a Grand Scale

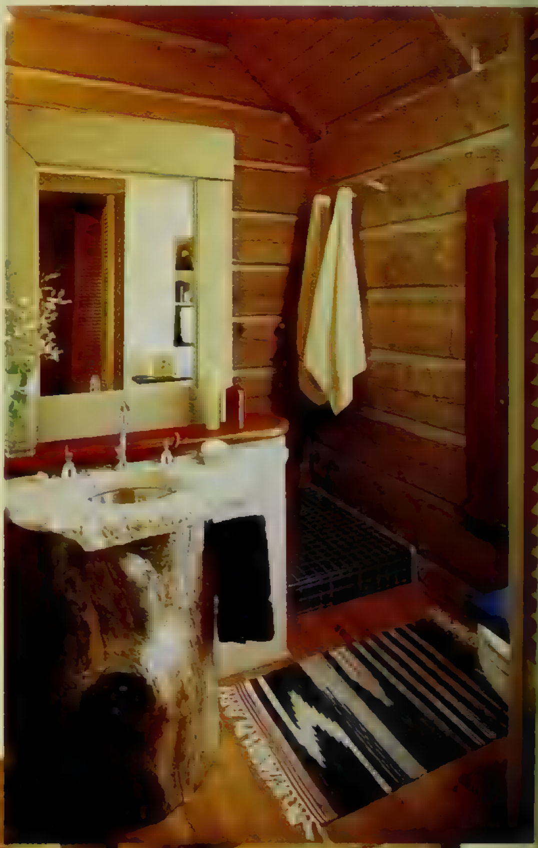
For his country place in Emigrant, Montana, 15 miles north of Yellowstone National Park, architect Tom Blurock wanted to give the impression of the massive scale of the lobbies of such famous National Park Lodges as Yosemite's Ahwahnee. But since he had only about 850 sq ft over all to work with, he had to make some adjustments.

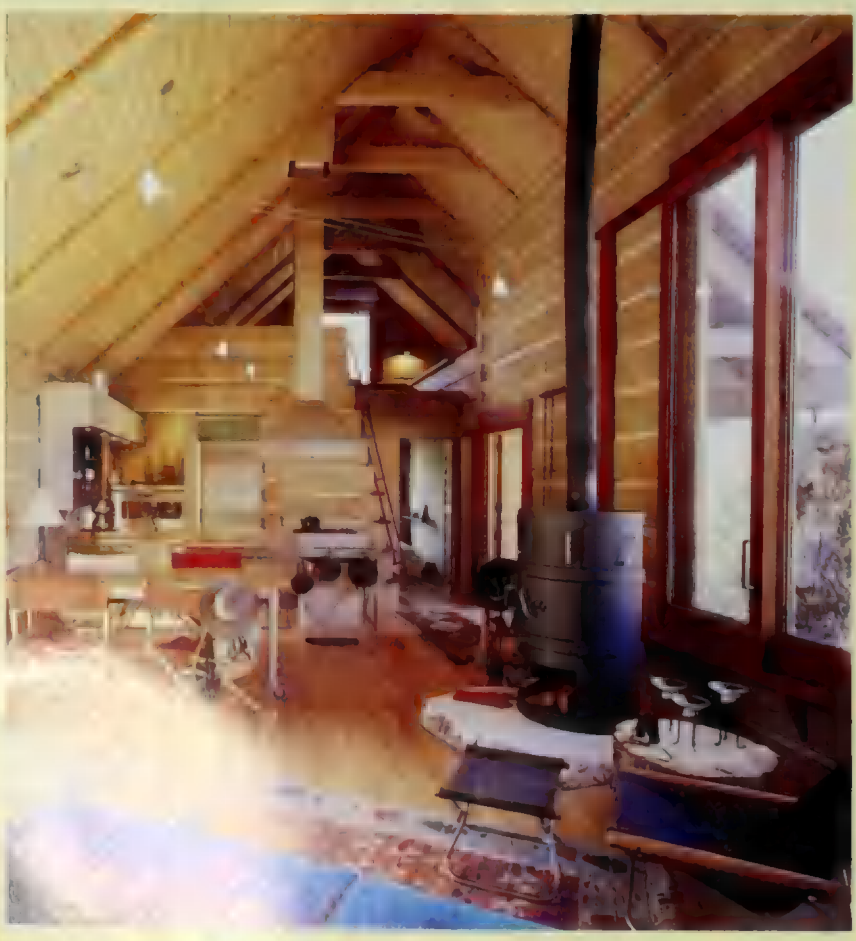
Major architectural elements—doors, windows, the logs themselves—have been selected and sized on a skewed scale that imparts a solid, large feeling. Doors and windows are both shorter and wider than usual. For example, the 12-ft-wide north-facing window-wall is 6-ft 6-in. high, not the more-common 6-ft 8-in.

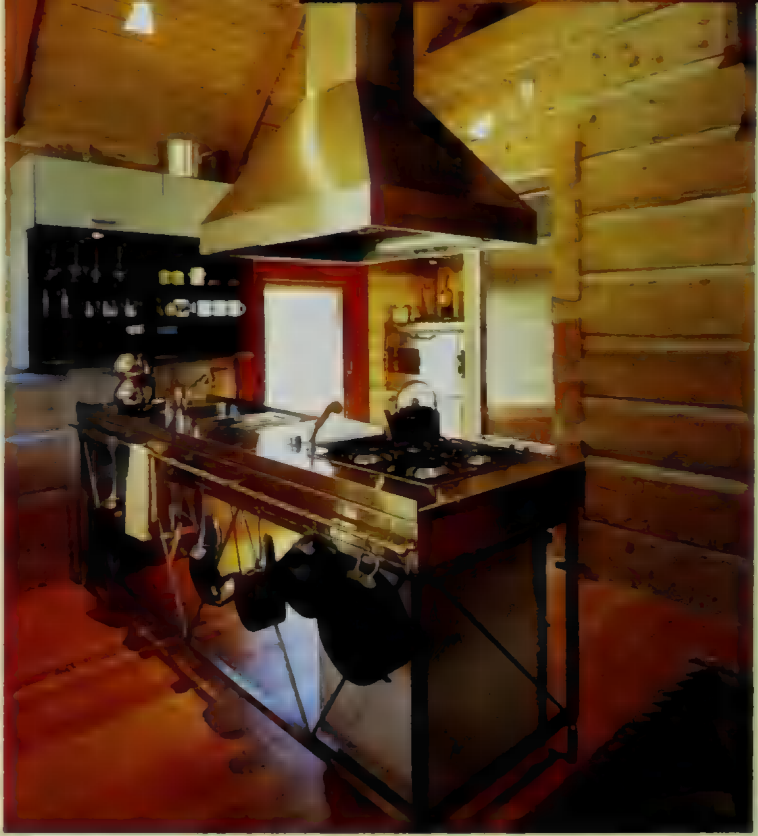
Extra-wide trim around openings adds to this sense of scale, and also conceals the gap needed to accommodate the movement of the logs under temperature changes. The chinking (log jam) is a silicone material that remains springy and resilient, unlike the mortar previously used. All the rustic materials—Douglas fir logs, window frames of unfinished teak, lodgepole pine, even the zinc roof (not shown)—are intended to gray out together.

The components Blurock chose for the 475-sq-ft kitchen/living/dining space (below) are also hefty. The black Danish stove heats the whole house, even during Montana winters. The 8-ft 6-in.-long stainless-steel workbench holds two sinks (one next to the burners to make filling pasta-water-pots easier), cooktop, counter space, and all the pots and pans. In the tiny bath (right), tucked off of the ship-cabin-scale bedroom, a massive section of peeled fir log holds a top of local travertine. Notice the width of the mirror surround.

Architect: *Thomas Blurock*
Sources: *Wood stove: Rais. Kitchen Bench system: Bulthaup. Sliding windows and hardware: DuraTherm Window Corp. Wall ovens and cooktop: Gaggenau. Refrigerator: Sub-Zero. Vent hood: Abbaka. Bath faucets: Chicago Faucet. Rolling table: Ligne Rosset. Shower tile: American Olean Tile Co. Log fabrication: Logcrafters.*







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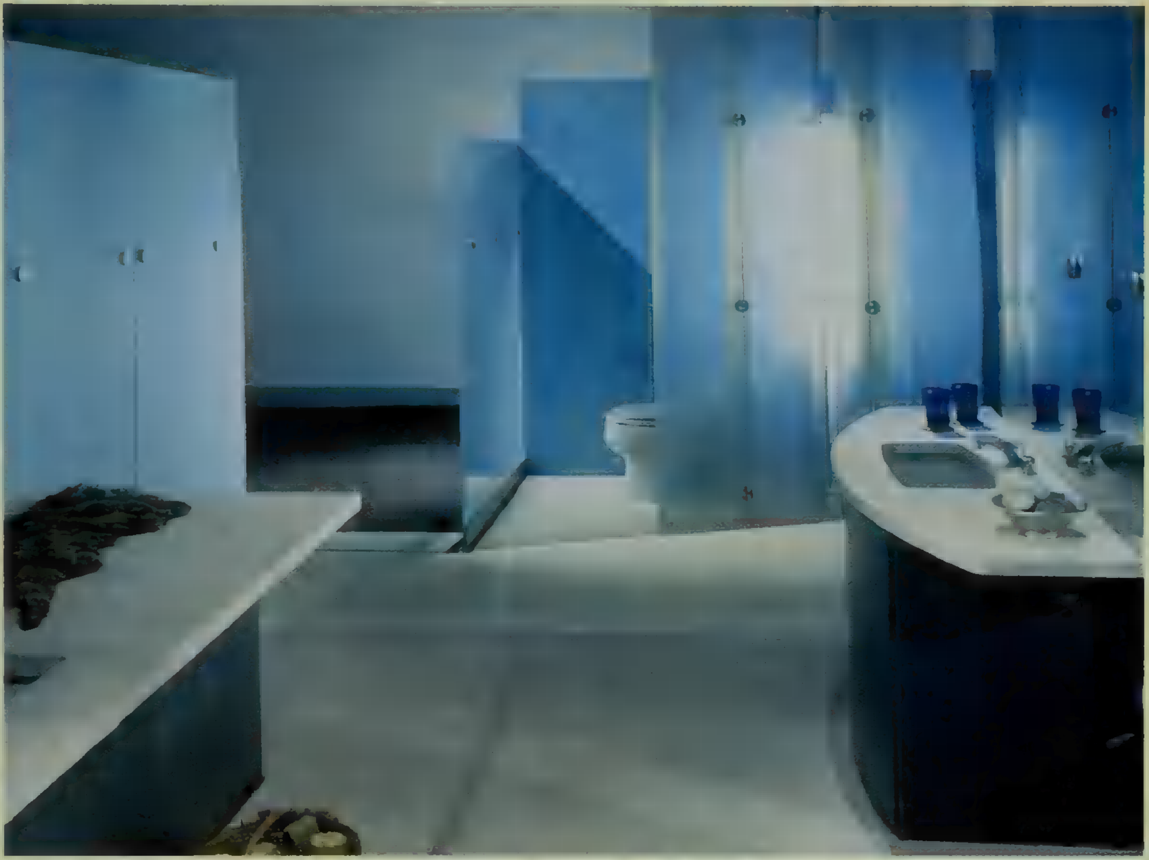
howcase

serene bath created for the Kohler exhibit
January's National Association of Home
uilders by Tod Williams and Billie Tsien
ses cool, subtle materials such as sand-
asted glass (sealed against fingermarking),
pecial limestone-like concrete, and space-
eparating screens of translucent fiberglass.
ixtures are a soft gray. The total effect is
ne of water-washed stone—the only touch of
olor is the moss garden on the cantilevered
b surround.

rchitect: *Tod Williams Billie Tsien and
ssociates—Matthew Baird, project
rchitect.*
ources: *Tumbled white-marble flooring and
nded-glass Chiaro tile: Ann Sacks.
hirlpool tub, toilet, lavatory basin: Kohler
. (Ice Grey). Faucets, shelving, and hooks:
ohler Co. Mirror: Robern, Inc. Glass panels:
vex Curtain Wall. Vanity and tub surround:
ustom Crete. Other panels: Complex
iberglass and Composites.*

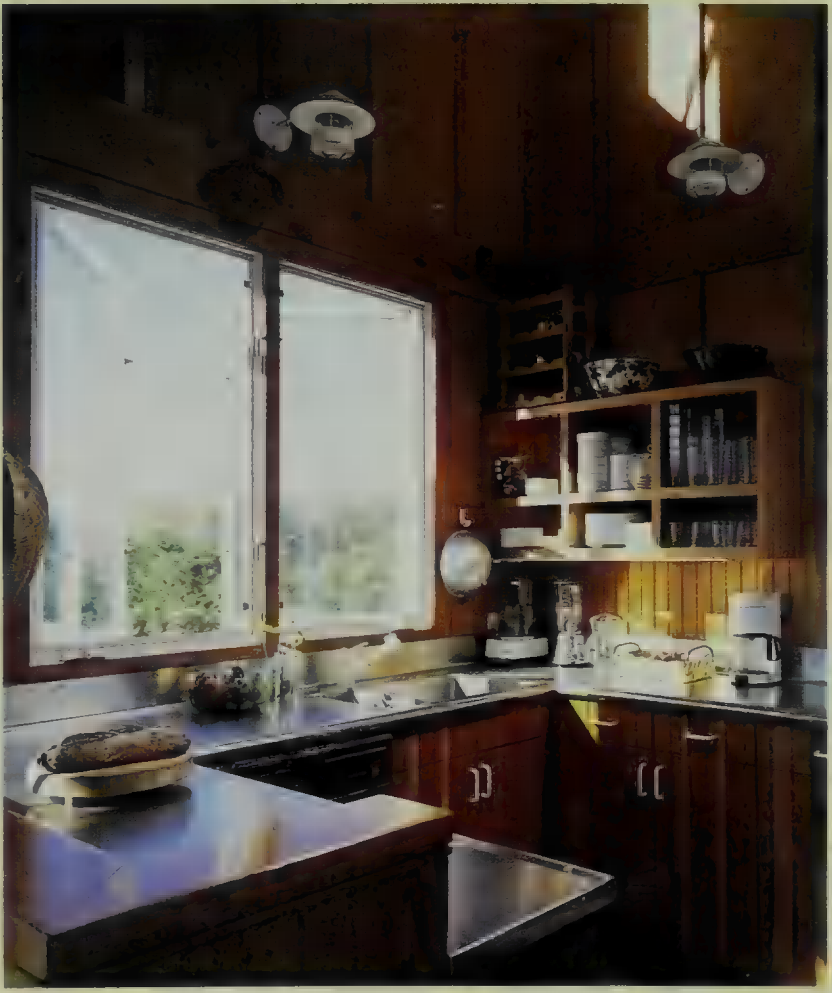


© Paul Warchol

uilt to Last

r his bayside Fire Island, N.Y., home,
eter Samton selected materials with a
oven record of long-term performance in a
lt-filled marine environment—and ones
at could be delivered by boat. The kitchen
ght) has cabinet faces and walls of solid-fir
ainscotting, characteristic of Long Island's
and 1890's shingle cottages, with strong
rtical lines that disguise the uneven weath-
ing of the wood from sun and glare. The
and site made prefabrication vital: coun-
rtop, sinks, and backsplash (all stainless
eel to withstand the always-damp air)
rived as one piece and didn't need to be
amed. Flooring is Vermont Green slate.

chitect: *Peter Samton, Gruzen Samton;
ll Bialosky, job captain.*
urces: *Cabinetry: custom by architect,
ricated by Bruce Mayer. Casement
ndows: Marvin (XL finish; stainless-steel
rdware). Wire pulls: Hewi. Pendants:
ulsen Lighting, Inc. Stainless-steel
unters: fabricated by Sefi.*



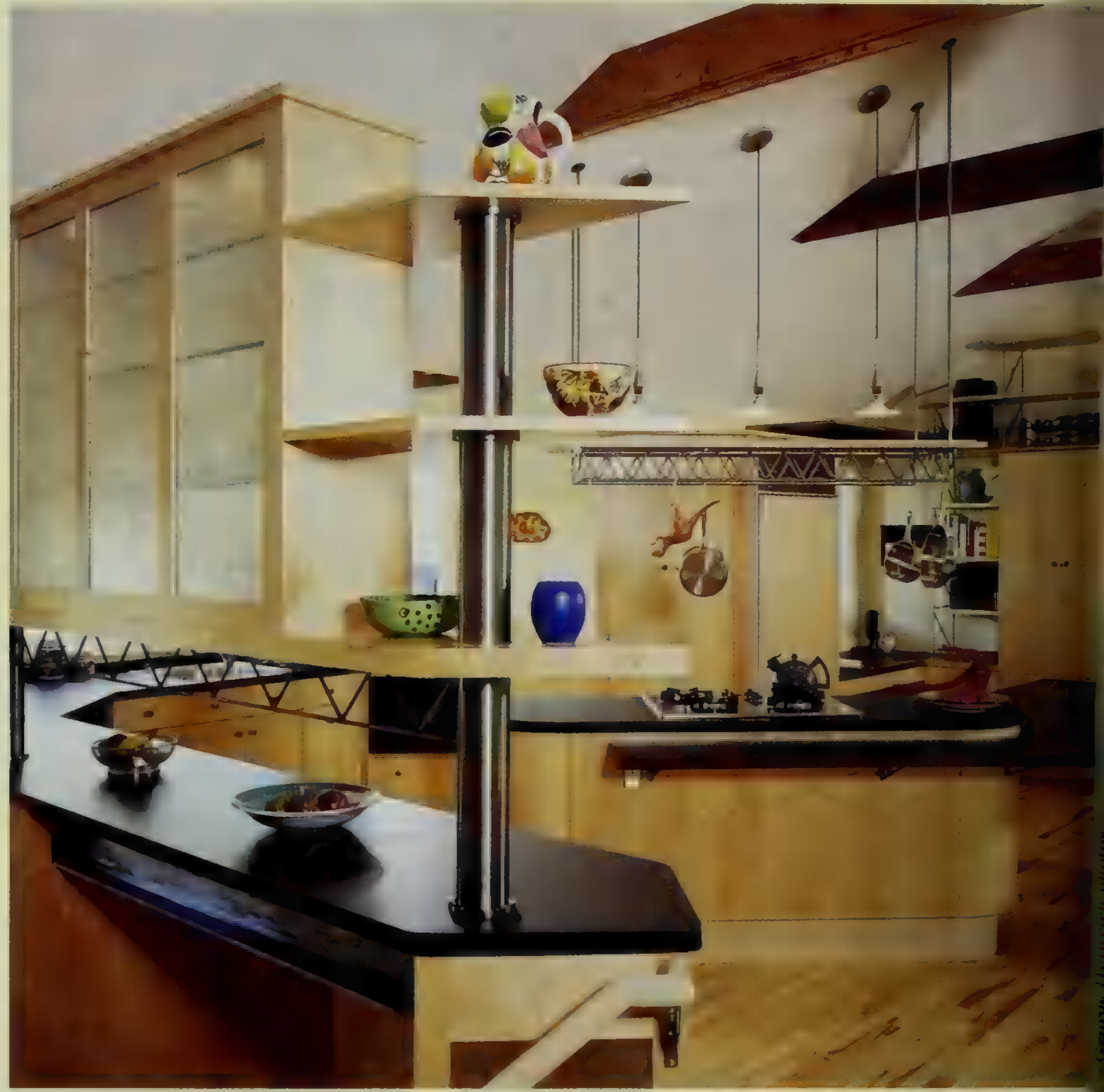
© Paul Warchol

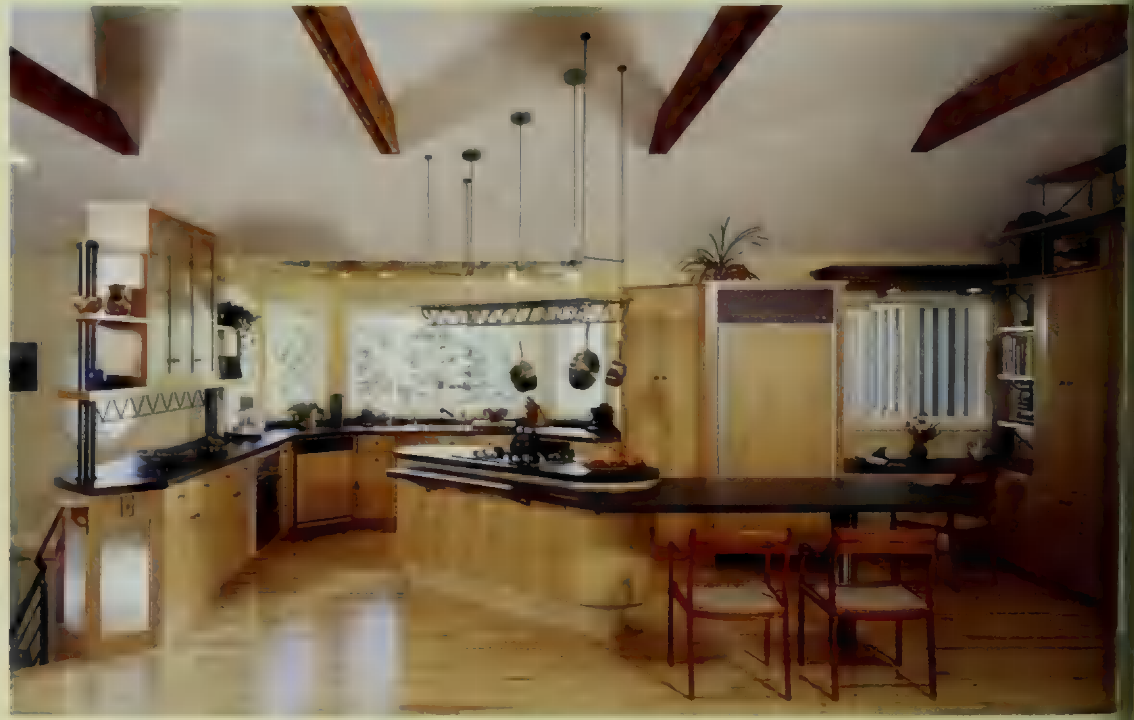
Heart of the Home

Architect Todd Remington used some structural sleight-of-hand to create a light-filled great-room-kitchen within a single-level Minnesota home. In order to span the existing stairs (saving the expense of moving them) and open the new space to a view of woods at the rear, I-beams were slipped under base cabinets (at left in both photos), and a custom "mini-truss" carries upper cabinets. Glass fronts on both sides of the extra-long upper cabinet turns them into a light well for the stairway, and let even more light into the kitchen. This joist is held by a steel-post system developed for this project, with set screws that hold collars supporting the extended cabinet shelves. Metal has a brushed-steel finish that reflects other colors in the room.

Finishes—natural birch wood and solid-black laminate countertops—were selected for their comfortable appearance, modest price, and a Bauhaus esthetic that appealed to the German-born client. A 12-in.-deep cantilevered snack counter wraps around the cooking/eating island to double as a safety standoff, distancing small children from the cooktop.

Architect: *Todd Remington/Choice Wood Design Build Company.*
Sources: *Cabinetry: Cabinets by Choice. Patterned glass in cabinets: Brin Northwestern Glass. Pendant downlights: George Kovacs. Cooktop: Thermador. Refrigerator: Sub-Zero. Countertops: Nevamar. Custom truss system: ESR Corp. Cabinet hardware: Amerock. Paints: Sherwin-Williams. Sink: Elkay Mfg. Co. Faucets: Grohe. Track lighting: Juno. Electrical switchplates: Leviton. Windows: Marvin. Skylights: Velux-America.*





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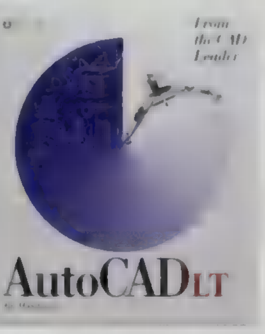

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CALL FOR SUBMISSIONS

Pacific Rim 1996

The editors of ARCHITECTURAL RECORD are looking for projects both completed and on-the-boards – to be shown in the fourth annual Pacific Rim section. Projects must be in the Asia/Pacific Rim region and can not have been previously published in any other U.S. design magazine.

Ve are particularly interested in rojects that exhibit innovative solutions o important design challenges, such as:

- Responding to environmental concerns,
- Finding appropriate expression for modern buildings in traditional settings,
- Dealing with issues of scale and massing,
- Reinforcing the urban fabric and local context, and
- Utilizing new architectural technologies.

Submissions should include:

1 Good photography (color transparencies or slides).
2 Floor plans, site plan, and any other drawings that help explain the project.
3 A short project description.

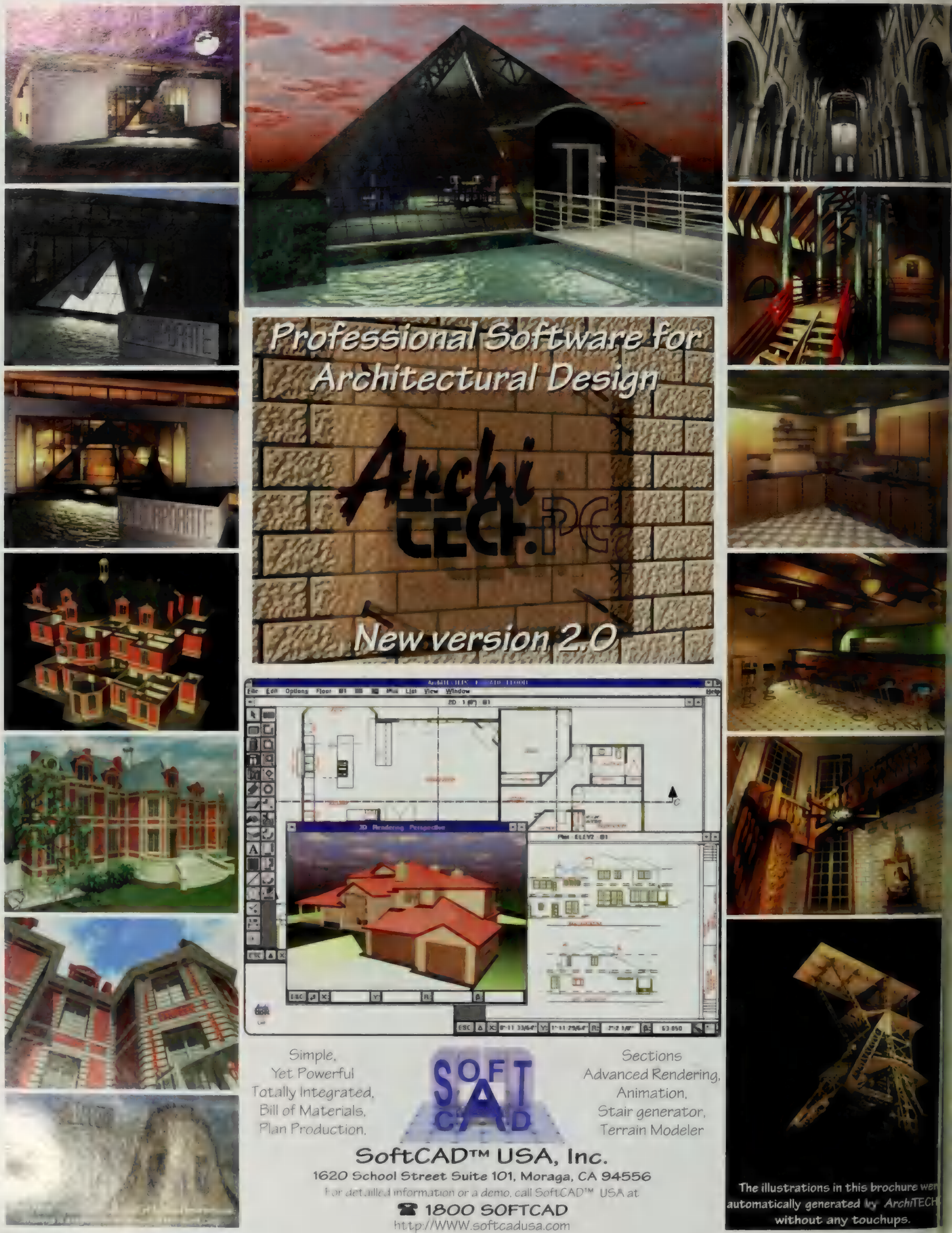
All architectural firms involved in the project must be given proper credit. Projects should have been completed no more than 2 years ago.

Deadline: April 15, 1996

Submissions should be mailed to:

Clifford A. Pearson
Pacific Rim Section
ARCHITECTURAL RECORD
1221 Avenue of the Americas
New York, NY 10020-1095

If you would like your submission returned, please include a self-addressed envelope with appropriate postage.



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Two CAD Upgrades, One Clever CAD Tool

Check out Cadvance 6.5; AutoCAD's new Release 13 upgrade with Windows95 compatibility; and a wood-joint designer, WoodWorks Connections.

Steven S. Ross

you have any spare funds for computer-lated purchases, you might do well to take ook at more random-access memory. RAM ices have finally begun to fall in dollar rms, after stabilizing at about $40 per egabyte for the past three years. (Off-shore, emory prices have been falling a little over e past few years, but the effect had been asked by a weak dollar.)

ow memory costs are under $30 per mega-te and falling further, despite strong mand brought on by memory-hungry indows95. Extra memory brings extra eed, extra stability, and the ability to have tra programs run alongside your CAD ogram, like databases and spreadsheets.

u might also put some money into "spe-lized" tools such as the WoodWorks suite scussed this month.

ving trouble finding those extra funds? u may need more marketing and book-eping help. Next month, we'll be looking at tware to help you do just that.

advance 6.5

ndor: FIT (Furukawa Information chnology), 721 N. Euclid St., Suite 203, aheim, CA 92801, 714/956-3171, fax 4/956-3170, CompuServe GO CADVANCE, tp://www.cadvance.com.
uipment required: Windows or Windows computer. Comfortable in 8 MB for small es; 16MB of RAM recommended. Program es take about 10MB of disk space for full tallation.
st: $1,995; upgrade from 6.0 is $50, from 5.0 d earlier, $395. Competitive upgrade from D packages costing at least $1,000 is $595. grade from less expensive packages is 995 minus price of competing software. ee unlimited support (you pay for the call).

dvance was the first fully-functional high-d Windows CAD package. But Cadvance's ginal parent, IsiCAD, fell on hard times; T has released a modest update with an gressive pricing strategy in hopes of storing some luster. Cadvance does some ngs extraordinarily well:

- ts 2D drafting tools remain first-rate, even by today's standards.
- Unlike AutoCAD, more than one project or drawing can be loaded at the same time, allowing transfer of data and drawing sections among them, without loading more than one copy of the entire program.
- Most standard Windows-compatibility tools are enabled—OLE and DDE for two-way data exchange with database or spreadsheet software, the Windows clipboard, and other items.
- There is basic rendering, and the ability to create walk-throughs.
- You can import almost any bitmap file in any format.
- There's a versatile macro-language with good macro-recording ability.
- There are many suppliers of add-on products that enhance its capabilities.

But 3D editing is limited. You can extrude a plan into 3D, and you can combine 3D primitives. But you can't simply dive into a 3D drawing and add new material on-the-fly; the drawing file structure keeps 2D and 3D entities separate. And, despite Cadvance's small memory footprint, it actually takes longer to redraw a screen than does AutoCAD R13c3 or c4.

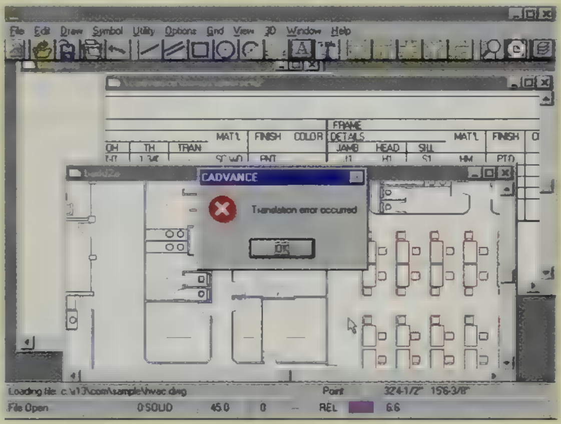
If you intend to translate back and forth between Cadvance and AutoCAD, test carefully first. Cadvance was one of the first to offer direct binary compatibility, reading and writing AutoCAD DWG files. In fact, it licensed the technology from Sirlin. But since the last license upgrade, in 1993, Autodesk has purchased Sirlin and evolved its file structure.

In general, we were unable to import AutoCAD Release 13 files cleanly in DWG (we converted them to R12 files first, from AutoCAD R13). AutoCAD R13 had some difficulty reading Cadvance drawings saved as Version 10, 11, or 12 DWG files. There are other modestly-priced CAD packages (Visual CADD comes immediately to mind) that do a better job with AutoCAD files.

Who, then, should be interested in Cadvance? Facilities managers will find its database hooks especially useful. So will those who are using older versions of AutoCAD, and who need a compatible, mainly 2D package that runs fast on small machines, and that allows easy transfer of data among drawings that may all be on-screen at once.

Manuals: Two thick paperbacks cover reference, tutorial, and user's guide and a small addendum for 6.5 features.
Ease of use: The 2D tools are fine, as is the walk-through feature. But other 3D features are somewhat dated.
Error-trapping: Excellent. Changed or deleted items are not permanently removed from the file until it is "packed" or until it is saved in a non-Cadvance format.

151 *on Reader Service Card*


File Edit Draw Symbol Utility Options Grid View 3D Window Help
FRAME
MAT'L FINISH COLOR DETAILS MAT'L FINISH
JAMB HEAD SILL
OK

CADVANCE

Translation error occurred

Loading file: c:\r13\com\sample\hvac.dwg Point 32'4-1/2" 15'6-3/8"
File Open 0 SOLID 45.0 0 REL 6.6

The error message was caused when Cadvance was unable to translate an AutoCAD Release 13 DWG file. Notice that there are three windows open—with three different CAD files displayed.

AutoCAD Release 13c4

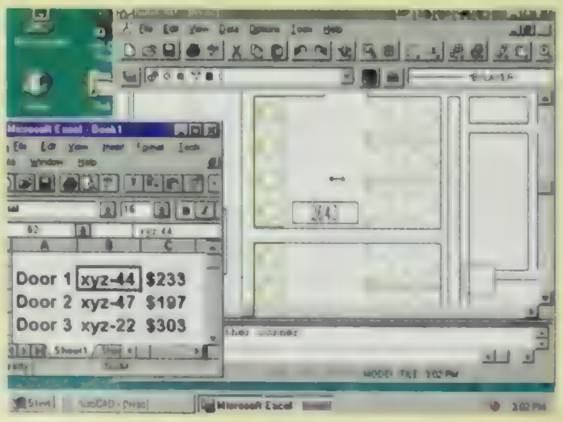
Vendor: Autodesk, 111 McInnis Parkway, San Rafael, CA 94903, 415/507-5000, 800/964-6432, fax 415/507-5100, CompuServe GO ADESK, http://www.autodesk.com.
Equipment required: Computer already running AutoCAD Release 13 in DOS, or computer capable of running Windows 3.1, 3.11, 95, or NT, 16MB of RAM (more recommended) and 100MB of hard drive space. CD-ROM drive strongly recommended; the upgrade from CD-ROM took less than 20 minutes on our review machine.
Cost: This is the currently shipping version of AutoCAD Release 13, $3,750 on CD-ROM, $3,995 on floppy disks. The upgrade from previous versions of AutoCAD R13 is free, but dealers may add a service charge. *Continued*

This "c4" upgrade to AutoCAD Release 13 is the fourth (and probably the last) major upgrade before Release 14 shows up in 1997. If you've already installed the c3 upgrade from last fall (it came with new, fast screen drivers), you may not want to bother with this one. There's new functionality and a 10 to 20 percent speed increase for Windows users, but there are also new incompatibilities.

There is something for everyone, even for DOS and Unix users (more below). For the Windows user, the release is fully compatible with Windows95. You can run more than one copy of AutoCAD at the same time in Windows95 as well as WindowsNT—important if you need to share drawing elements or data among two or more projects.

There's also full Windows OLE-2 compatibility. That is, you can paste or link objects from other applications into AutoCAD, and from AutoCAD to other applications. If you have enough memory to keep all the applications open at the same time, you can even "drag-and-drop" selected objects into drawings. For all users, there's a new "SAVEIMAGE" system variable that controls the writing of graphics files for application-defined objects.

The downside is that add-on products that use the Autodesk ARX development environment have to be updated. How do you know if you are using ARX? ARX is part of the ADS interface—the interface most add-on vendors use to "hook into" AutoCAD. But only some ADS-dependent products use ARX. Most of them have an "ARX" filename extension such as SSDING1.ARX. The ARX revisions will help vendors provide more intelligence to standard "objects" that might be represented in your drawings.


Door 1 xyz-44 $233
Door 2 xyz-47 $197
Door 3 xyz-22 $303

[illegible] and an Excel spreadsheet on [illegible] machine [illegible] MB of RAM. If the [illegible] Windows95 [illegible]

Among the add-ons that should be upgraded are Autodesk's own AutoVision R2 (the R2c4 upgrade is included with the AutoCAD c4 upgrade); AutoCAD Designer 1.2 (you'll need to go to 2.0), and Autodesk IGES Translator R13 (you'll need AIT R13.1). Only the AutoVision upgrade was ready to test when we reviewed. Autodesk WorkCenter 1.1 works, except for "file open" redirection; an upgrade is due there as well.

All c4 versions, including the DOS version, benefit from new and enhanced commands—some of which were once available only in add-on products. There's a new "direct distance" entity entry, for instance—you move the cursor to indicate direction, and then enter the distance to the first point. You can now move dimension arrows and text independently of the dimension lines; stacked fractions are easier, too. There is better control of hatch patterns, attachments of material specs to objects, viewports, and creation of 2D profile images out of 3D solids. There's also an enhanced DXF translator that allows you to convert R13 DWG files to pre-R13 DXF. Unix users will appreciate the DLSTATUS command, which gives information on display lists, viewports, and swap space. There's also a new Unix "aerial view" viewport.

Manual: An unindexed 113-page paperback with information on installation and on new functionality.
Ease of use: No pain, no gain.
Error-trapping: There's now an incremental save, and an undo file that's easier to live with (you can keep it on your disk or in RAM) for Windows users. Both features encourage more frequent saving of work in progress. There is support for long file names in Windows95, but as you move files to other systems, their names may change in ways you don't expect. This is a by-product of Windows95, not AutoCAD.
152 *on Reader Service Card*

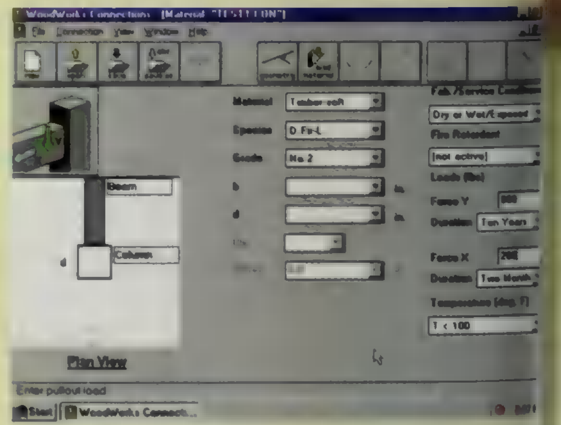
WoodWorks Connections

Vendor: American Forest & Paper Association, AWC WoodWorks Software, 1111 19th St NW, Suite 800, Washington, DC 20036. 800/463-5091, 202/463-2700 fax 202/463-2791.
Equipment required: Computer running Windows. WoodWorks Sizer strongly recommended.
Cost: $125; $59 for owners of Sizer; $349 for Connections and Sizer combined.

This clever program guides you through the process of designing post-and-beam or nail-splice connections using wood products—standard lumber sizes, hardware, even laminated materials. It conforms to the National Design Specification for Wood Construction.

Connections works without WoodWorks Sizer but if you are entirely unfamiliar with wood construction, or have an odd structural problem, you'll probably want to use Sizer to size the beams and columns you are connecting. Sizer is an "open" program, with many materials databases that you can edit and expand upon. You end up with a fully-dimensioned, detail- and-materials list. The drawings are pictures, not CAD-compatible, but they can be used to draw a detail into your CAD program. And, they should be sufficient for most purposes.

Manual: A clever on-screen movie.
Ease of use: Almost trivial.
Error-trapping: Any action that could destroy data is warned against.
153 *on Reader Service Card*


Material: Timber-soft
Species: D.Fir-L
Grade: No.2
Fire Retardant: (not active)
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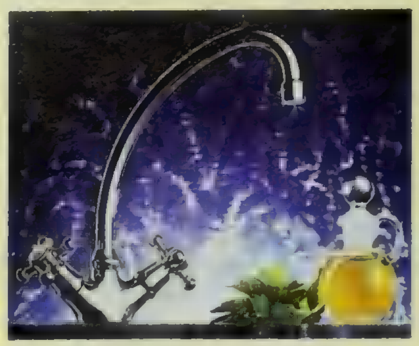
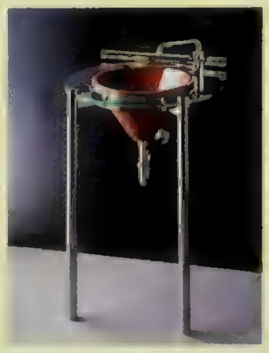
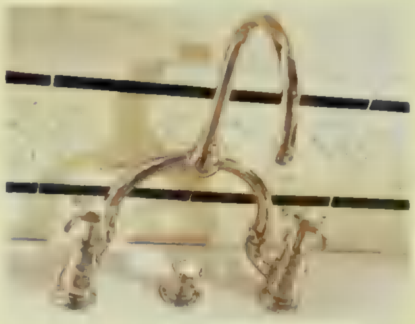


155. Modified gooseneck
Grohe's subtly curved Classic spout, introduced from Germany 20 years ago, can now be specified with a more traditionally styled cross handle. Interchangeable discs can be ordered reading "hot" and "cold" in English, French, and Italian. All solid-brass fittings meet ANSI/NSF Standard 61, Sec. 9 for water-contact materials. 708/582-7711. Grohe America, Inc., Bloomingdale, Ill.

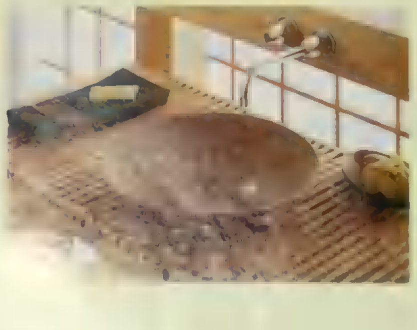


156. Wash-basin range
Variable lavatories, an unusual conical shape in either deep or shallow versions, are made in wood, as shown here, as well as enamel in four colors, clear and frosted glass, three colors of soda glass, and aluminum. Matching circular countertops may be stainless steel, clear or frosted glass, or a stone look. 714/282-8686. Toto Kiki USA, Inc., Orange, Calif.

157. Wall-hung fixtures
Vitreous-china, European-style water closet and bidet incorporate the Geberit concealed water tank and bowl carrier system, which fits inside a 2- by 6-in. stud-wall space. The tank, insulated to eliminate condensation, and the supply line, valve, and flush pipe are hidden but accessible behind a cover plate. 800/359-3261. Absolute, a division of American Standard, Inc., Chandler, Az.



158. French flair
From this source's Etoile collection of hand-finished brass and nickel plumbing fittings and bath accessories, the Arche lavatory set makes a grand, Victorian-influenced statement. A colorful small-format catalog shows basins, towel bars and hooks, tiles, hand-held and wall-mount showers, and faucets. 800/899-6757. Waterworks, Danbury, Conn.

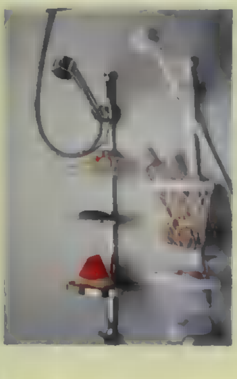


159. Above-the counter basins
New Vessels handcrafted ceramic lavatories come in three unusual shapes designed to fit within countertop cut-outs. Left, a slatted-wood vanity holds a clay-texture cone-shaped basin with a Japanese-bath effect; the wall-mount faucet is also a new design. Material options include six textures and three high-gloss glazes. 414/457-4441. Kohler Co., Kohler, Wis.

160. Pressure-balancing valve
A pressure-balancing, scald-preventing shower control is built with a ceramic disk cartridge said to maintain precise temperature levels without drips even in the hardest, most corrosive supply-water conditions. The device meets anticipated federal safety standards; the loop-style handle meets ADA requirements as well. 847/675-6570. Gerber Plumbing Fixtures Corp., Chicago.

161. Bath faucet
A new single-lever mixer from Dornbracht, German-made Novus faucets are said to work with both traditional and contemporary settings. The American source of these high-style plumbing fittings promises four-day delivery at the same cost as UPS ground from Atlanta. 770/416-6224. Santile International, Norcross, Ga.

162. Kitchen gooseneck
Renaissance faucets come in the classic gooseneck shown here, as well as a high-arched spout and a traditional style with integral soapdish. New finish options include brass-trimmed chrome, charcoal, and white with brass or chrome trim. Faucets come in models that fit different inlet configurations. 708/803-5000. The Chicago Faucet Co., Des Plaines, Ill.



163. Organized shower
An all-in-one way to mount bath accessories and storage onto the shower bar, the InTouch Organization offers a soap dish, hooks, shampoo shelf, and net-bag storage: even a hang bar for hand washables. Available in white, brass, chrome, and clear finishes. Other fittings mee specific needs such as seniors and healthcare. 818/369-1841. Interbath, Inc., City of Industry, Calif.

164. Traditional-style faucets
Known for very contemporary plumbing designs, this New York manufacturer now offers a mid-priced, more traditional range. Calle Classics, the line includes the Hampton lavatory set shown here. Finish options include all types of brass, polished and satin nickel, pewter, copper, and oil-rubbed bronze. 718/402-2988. Paul Decorative Products, Bronx, N.Y. ■

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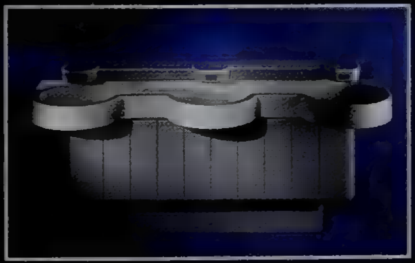

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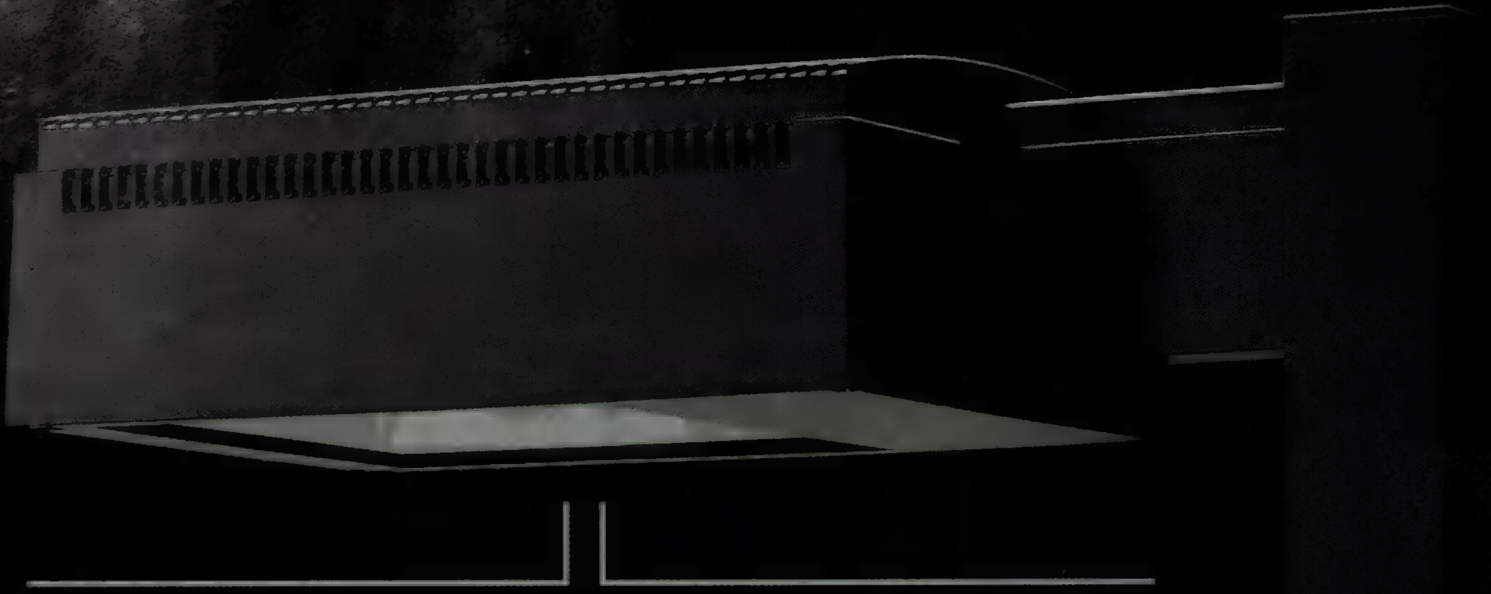

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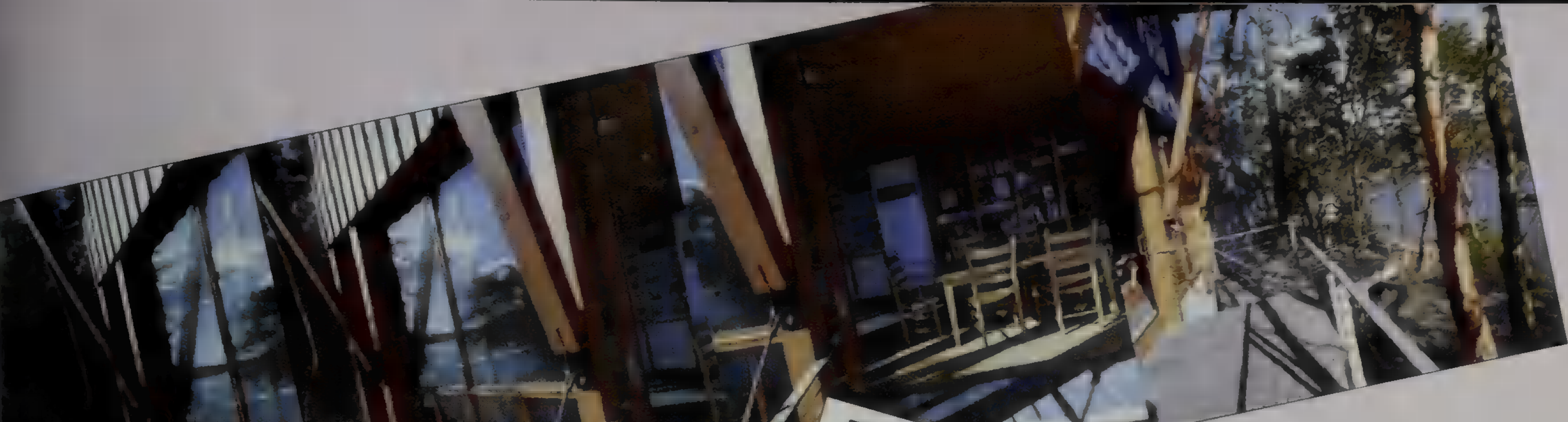

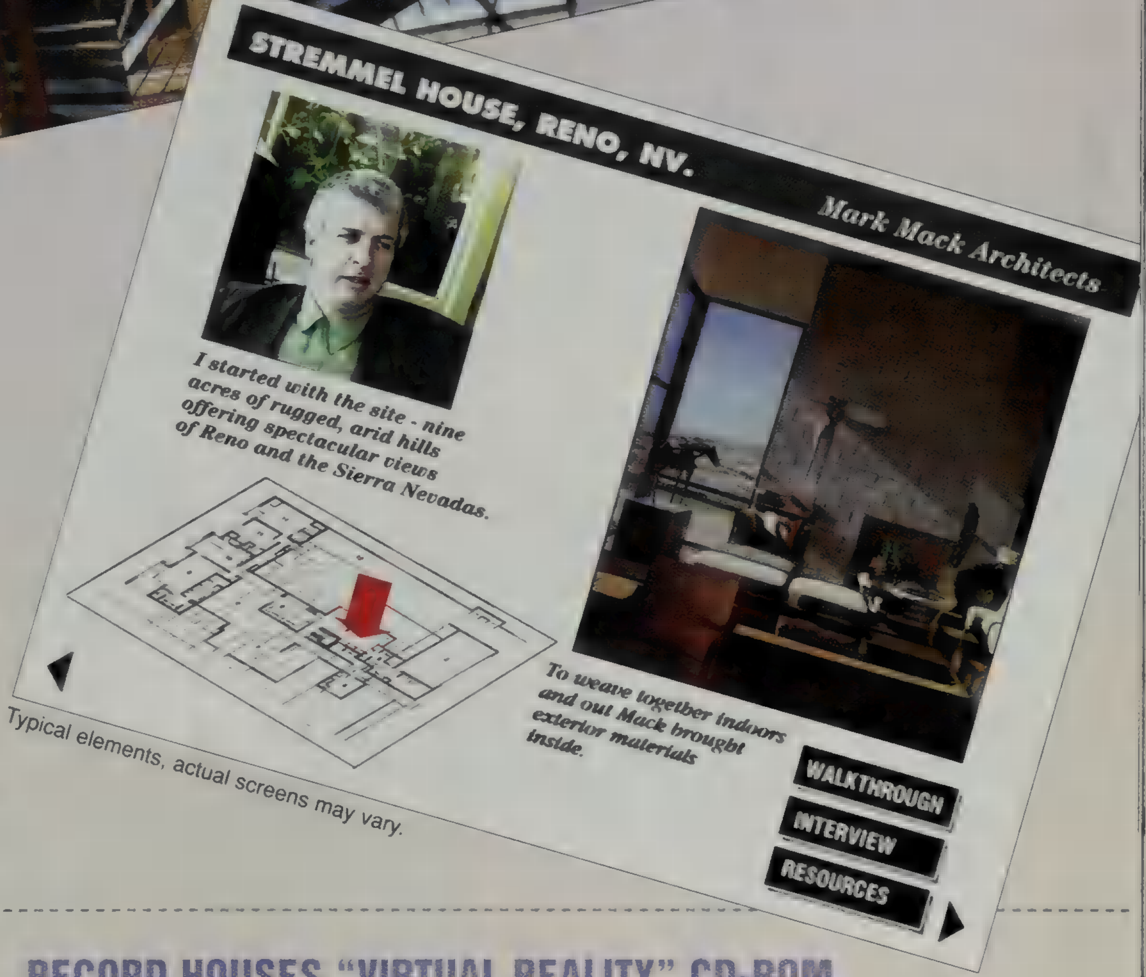
STREMMEL HOUSE, RENO, NV.

Mark Mack Architects

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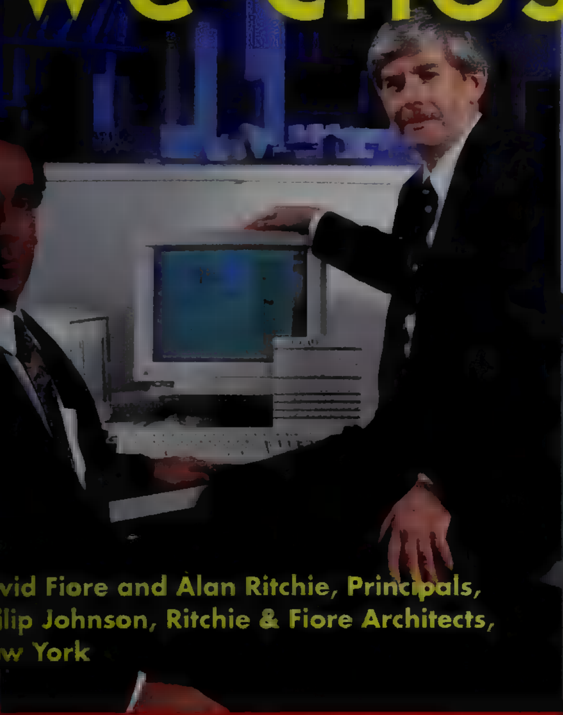

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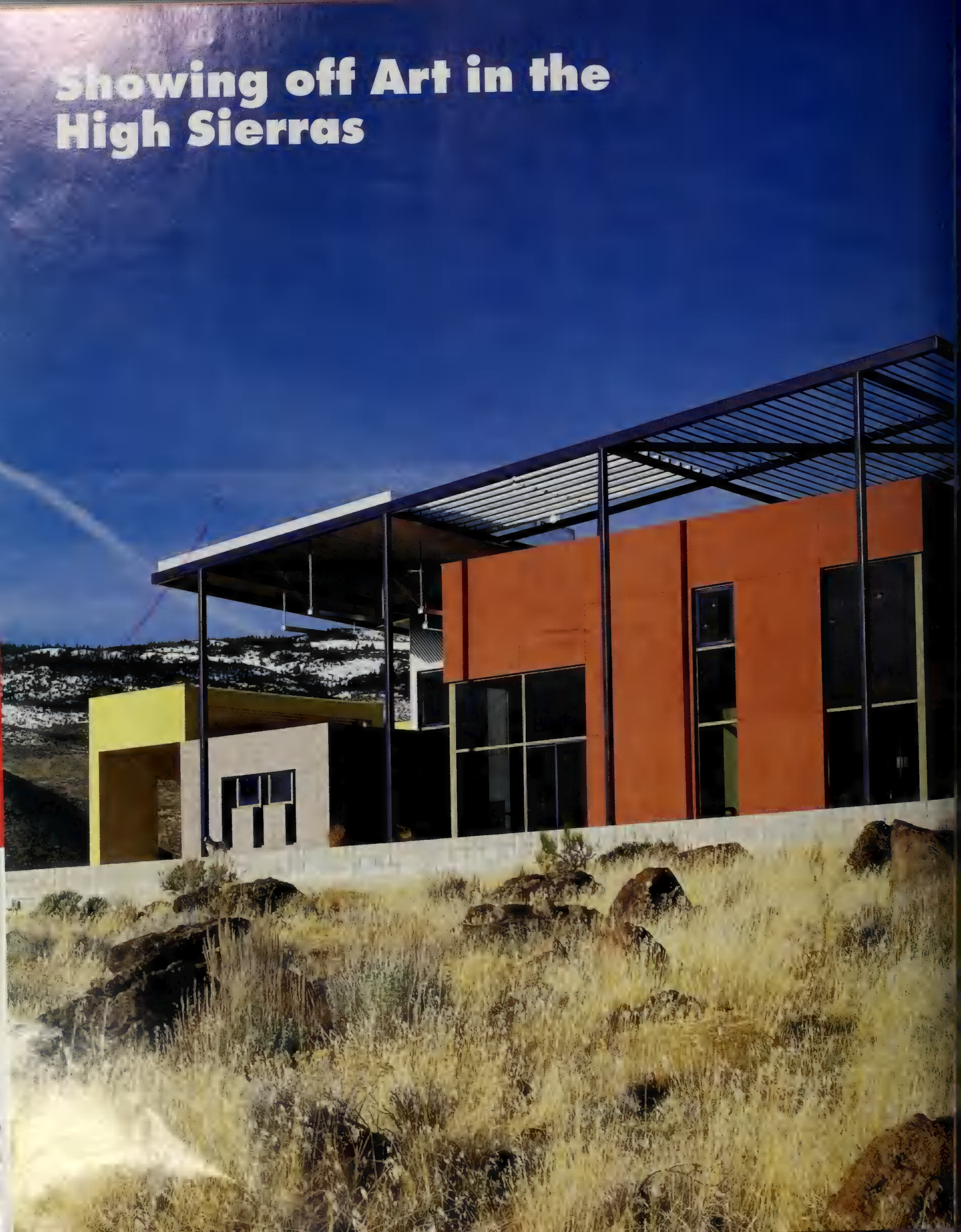
ARCHITECTURAL RECORD 4/1996

Building Types Study 736/Record Houses 1996

RECORD HOUSES 1996 marks the beginning of a new era. After 40 years of publishing the annual issue—the highlights of which are compiled in a book to be released this fall by Harry N. Abrams, Inc.—now comes an alter ego: a CD-ROM featuring this month's houses and produced with Graphisoft, U.S., Inc. It's the ultimate house tour. (The CD-ROM will be available next month for $19.95. To order call 212/512-4635.) While RECORD HOUSES, the magazine, was originally conceived to show that Modern houses are, in fact, livable, its main purpose remains true to what its first editor, Herbert L. Smith, Jr., wrote in the debut issue: "...recording and stimulating design progress." "A business card coming out of the mountains," is how 34-year-old Wendell Burnette (cover and pages 94-101) describes his own house outside of Phoenix, his first solo project. After nearly 11 years of working with Will Bruder, Burnette is opening his own office, and his house had, in addition to providing shelter for his family, a heavy burden to bear: "I needed to show potential clients what I was about," says Burnette. For architects who have produced many houses during their careers, each new one provides a unique opportunity to explore site, program, materials, and more. The weekend getaway that Peter Gluck built for his family proves that architects can be their own most challenging clients (pages 84-89). Mark Mack, who was born in Austria and now lives in Los Angeles, did what he calls his "most Californian house" in, of all places, Reno, Nevada (pages 72-79). Given the restrictions of low-income housing that he's grown accustomed to, Rob Quigley made an easy transition in scale and financial realm in his Capistrano Glass Beach Houses (pages 106-113). The simple forms and immaculate detailing of Richard Gluckman (pages 102-105) and Carlos Jimenez (pages 90-93) imbue their work with a timeless quality. In their projects, Miller/Hull (pages 80-83) and Patkau Architects (pages 114-117) show that forested, rocky sites, like so many domestic dreams, are highly buildable. *Karen D. Stein*

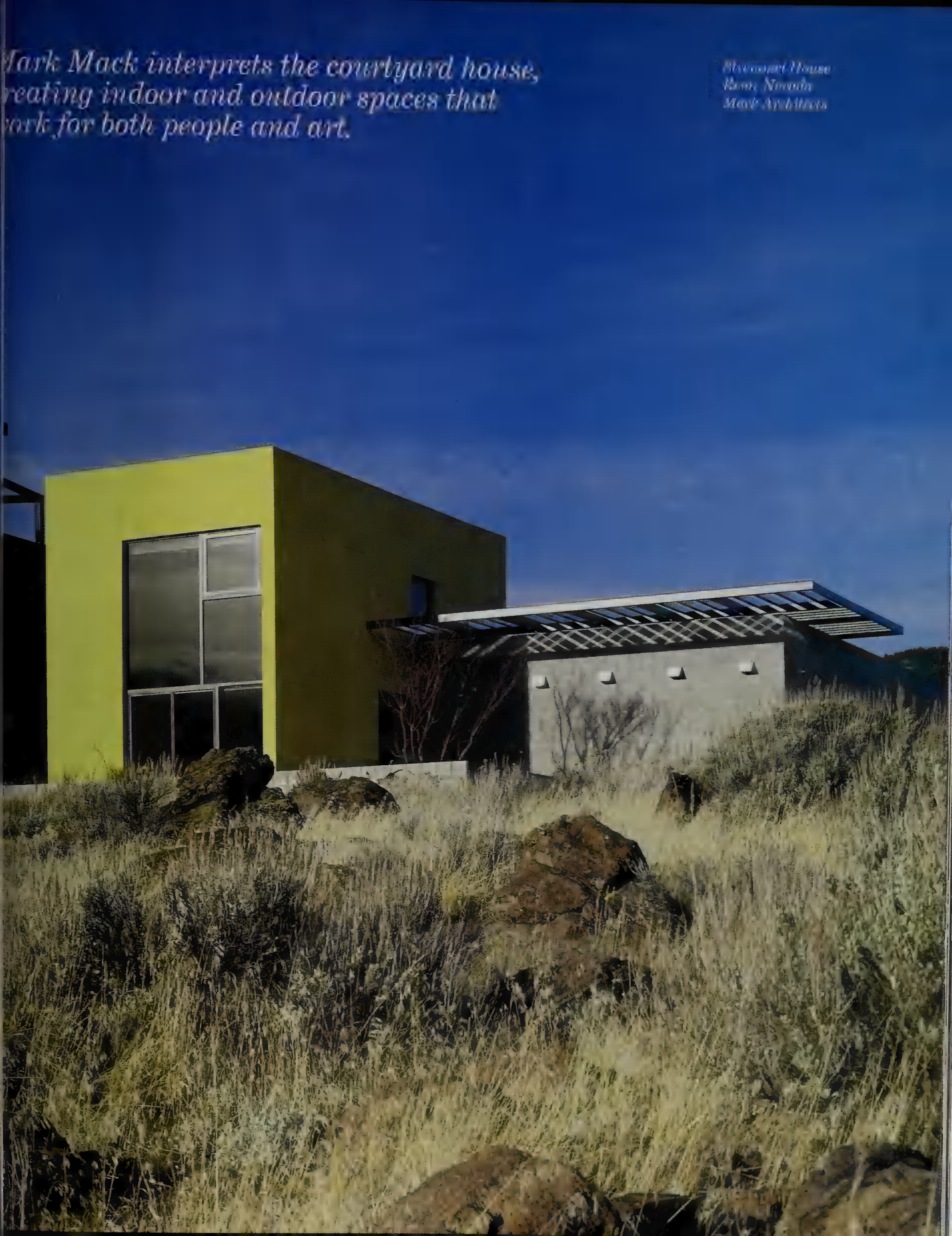
anufacturers' Sources
ted on page 118

Showing off Art in the High Sierras



Mark Mack interprets the courtyard house, reating indoor and outdoor spaces that ork for both people and art.

Stremmel House
Reno, Nevada
Mack Architects



[illegible] the site—nine acres of rugged, arid hills offering spectacular views of Reno and the Sierra Nevadas. "It was so unprotected, so open," remembers architect Mark Mack, of his first visit to the site with his clients Peter and Turkey Stremmel. "I was reminded of a simple shed standing alone in the desert," says Mack.

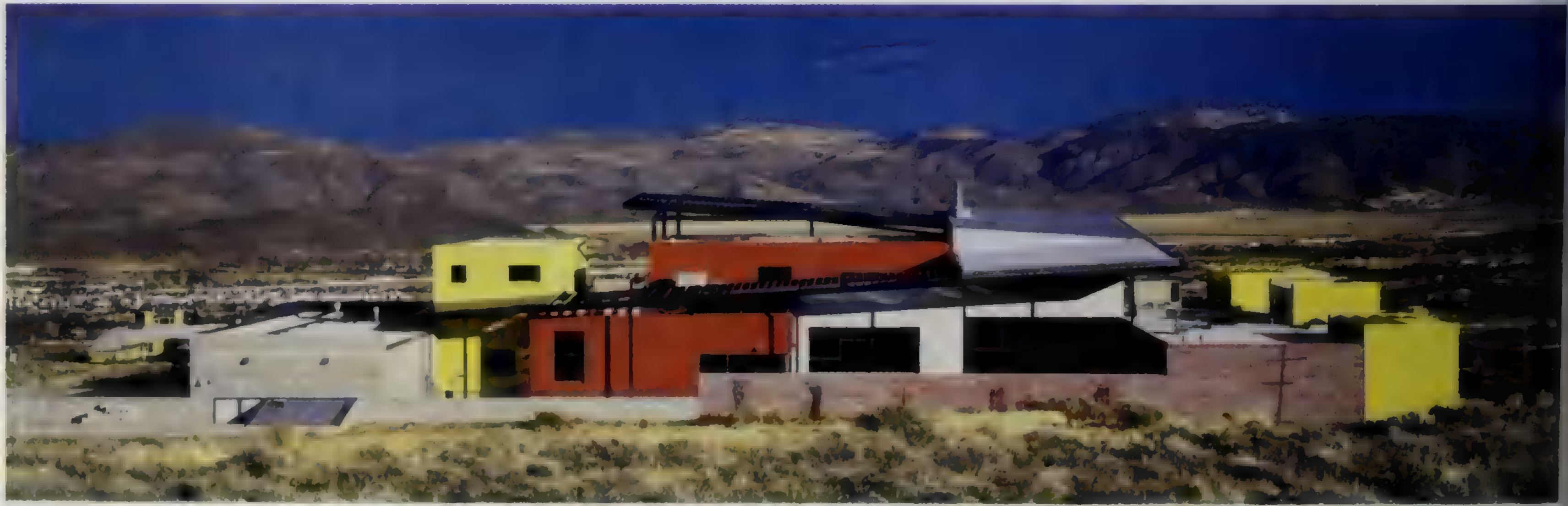
Mack's initial idea was to build a large prefabricated structure—a giant shed—and then insert various blocks underneath it, articulating each function according to its needs. During the design process, the shed evolved into a great hovering element that was part roof, part trellis, part breezeway. Like this unconventional sheltering device, the house as a whole uses fresh—but economical—means to link the outdoors with the inside, to interpret the traditional courtyard house, and to create interiors that work both as grand spaces for Modern art and as casual rooms for family living.

Respecting the rugged character of the site, the architect cleared just a small portion of it for a rectangular plinth on which to build the house. Within the confines of the concrete plinth, the right angle reigns supreme—even landscape features such as a reflecting pool and small grassy areas follow strictly orthogonal lines. Beyond the house's platform, the irregular realm of nature takes over. A clear distinction is also made between the front of the house, which faces east to the city, and the back, which turns toward a private courtyard. The main entrance, though, is placed on the north side, which establishes a strong processional axis through the house, but takes an important function away from the front of the building.

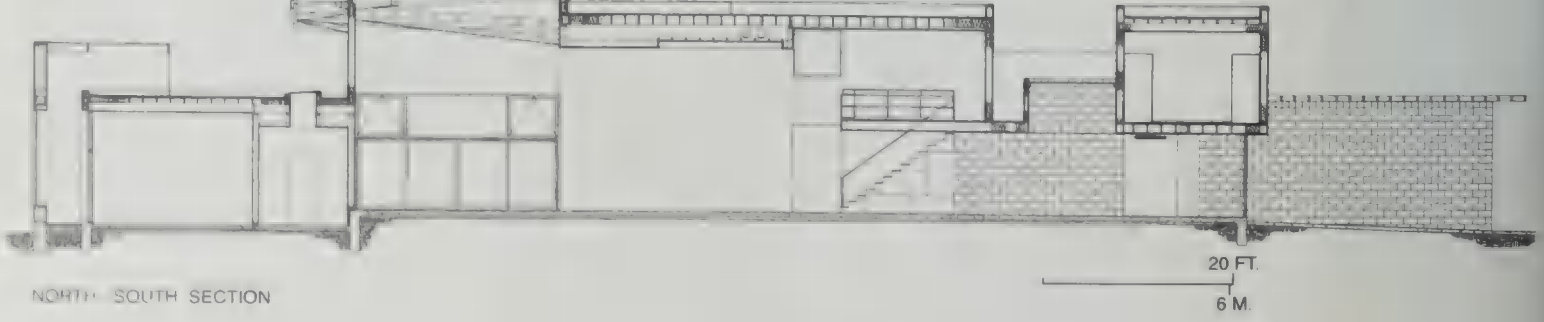
Although attuned to its northern Nevada setting, the Stremmel House shares some characteristics with the Austrian-born Mack's work in his adopted state of California. "I like to joke that this is my most Californian house," says Mack. A strong relationship between indoors and out and an open floor plan are hallmarks of Modern Californian design that also play important roles in the Stremmel House. Indeed, every room of the house has direct access to the outside and the large living spaces flow one into another without interruption. Emphasizing the link between inside and out, Mack designed courtyards and patios as outdoor rooms, going so far as to include a fireplace and hanging pendant lights in the covered yard just outside the dining room. At the same time, he used many "exterior" materials, such as concrete block and corrugated metal, inside the house.

The clients, who own an art gallery in Reno, wanted a house that would also be a showcase for their collection, which includes many large Modern pieces. As a result, the main living areas are big rooms with 18- to 24-foot-high ceilings, generous wall space, and a combination of track and spot lights that wash walls and key on individual pieces. While rich colors are used on the exterior of the house to break it down into smaller blocks, a more muted palette is employed indoors to provide a backdrop for the Stremmel's art collection. A wood-frame structure with some steel and a few concrete-block walls, the house is built on a concrete slab and has radiant heating.

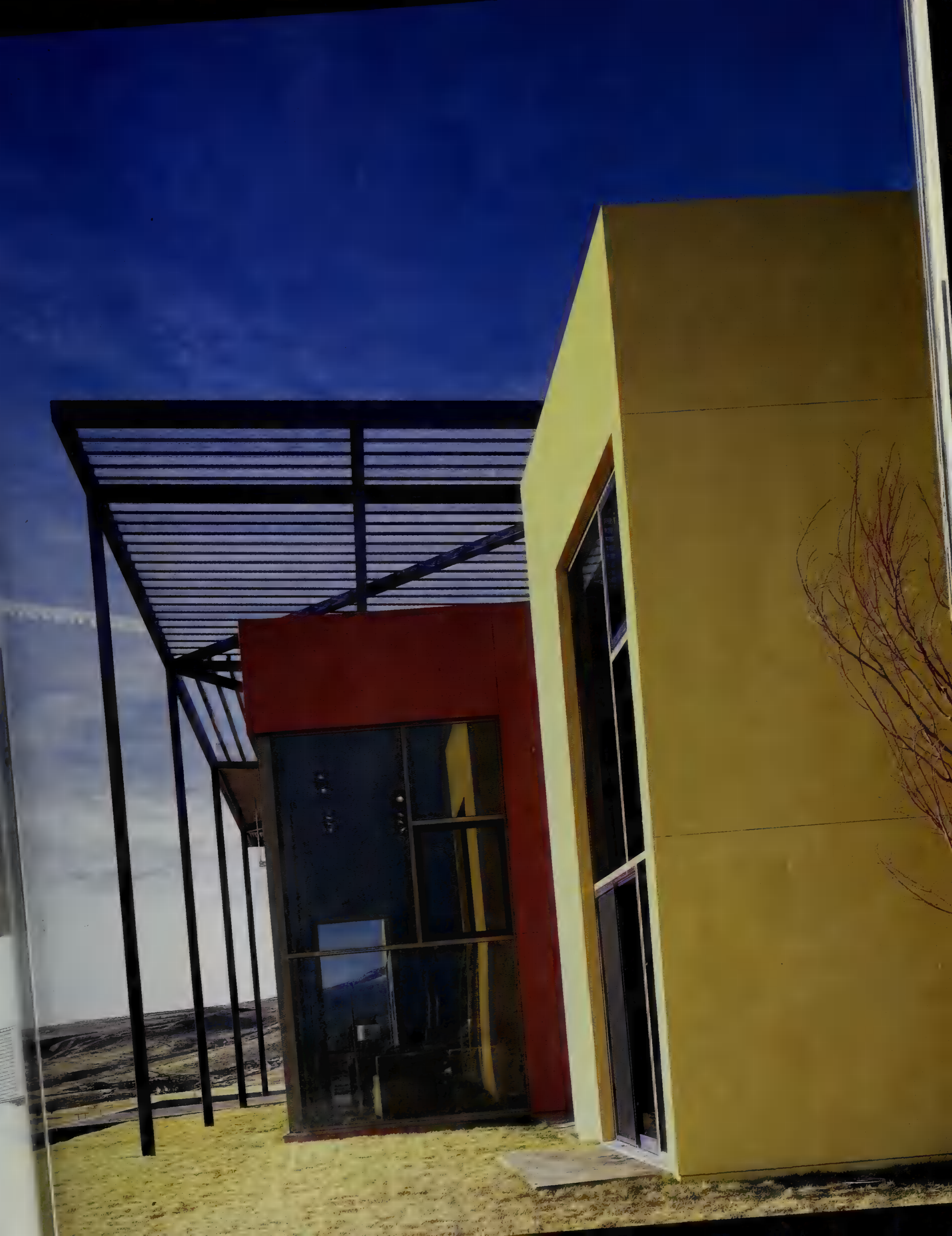
At 7,000 square feet, the house is big. But because it's a set of a few large spaces, rather than a warren of small ones, the house isn't overwhelming. After a year in the house, the Stremmels and their daughter are still discovering new things about it. "It keeps changing depending on the time of day and month of the year," says Peter Stremmel. "In most houses, you tend to gravitate to one or two rooms after a while. But we use every bit of this house." *Clifford A. Pearson*

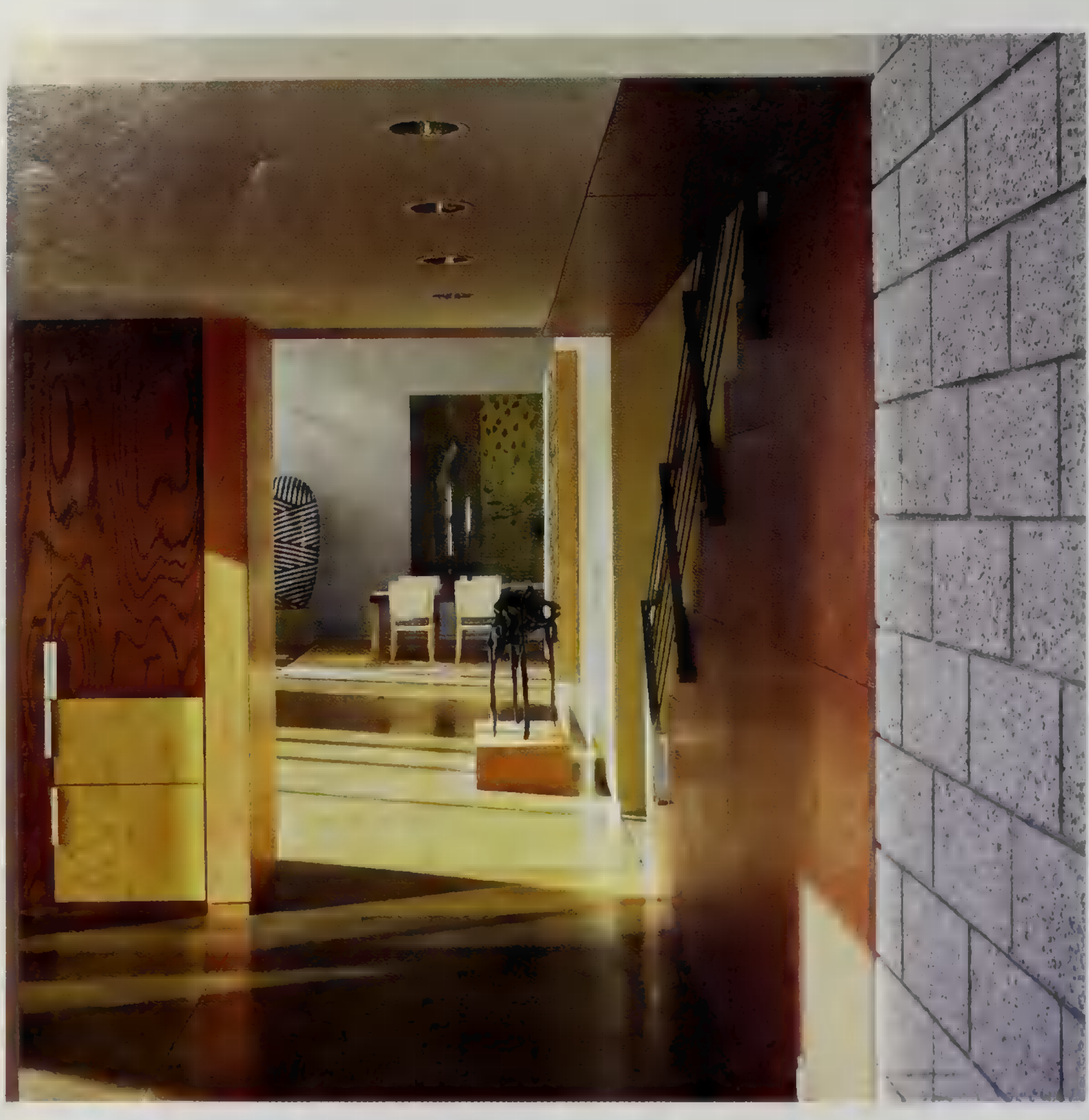


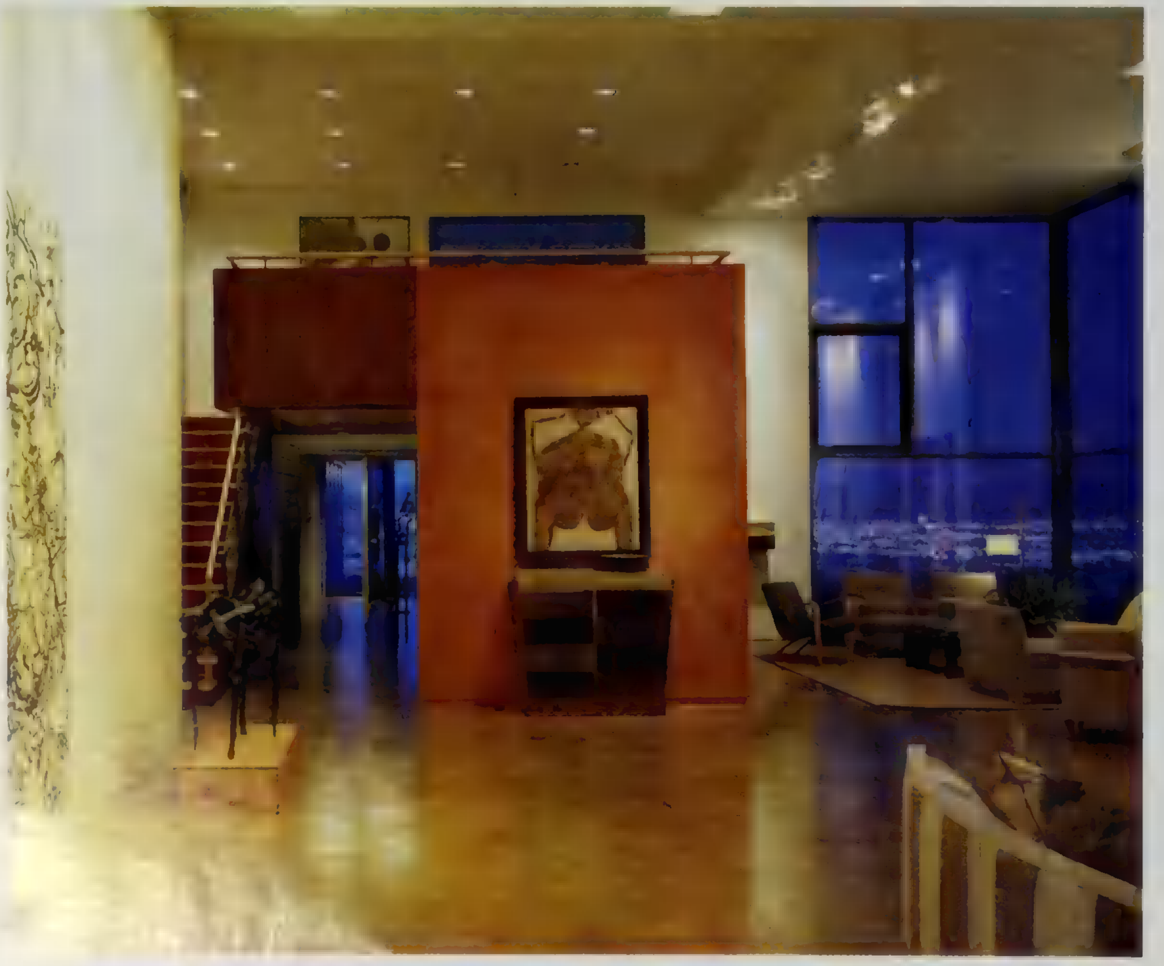
Richard Barnes photos



NORTH–SOUTH SECTION



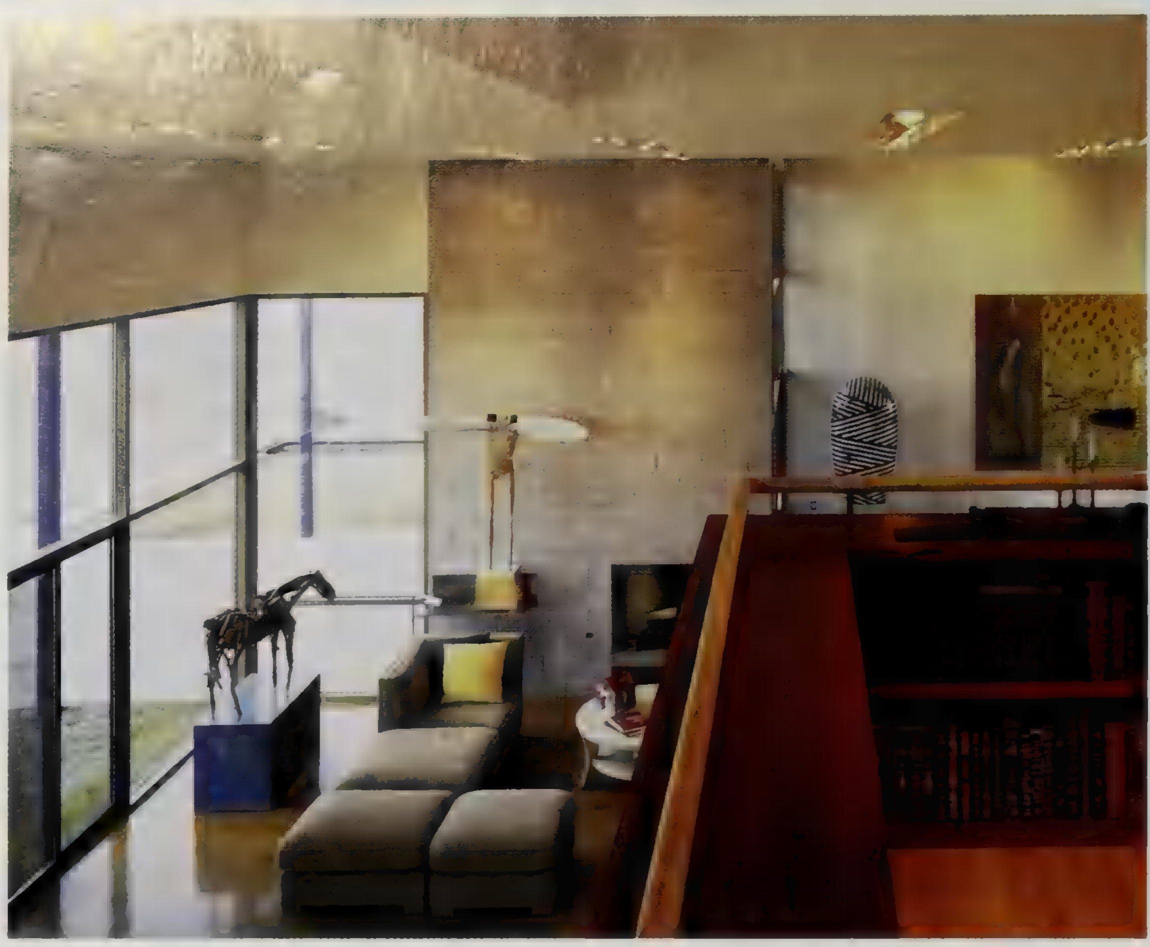




While most of the 7,000-square-foot house stretches along one floor, a study sits on a mezzanine overlooking the living room (left bottom). The only other second-story space is a guest room above a small den near the entrance (not shown).

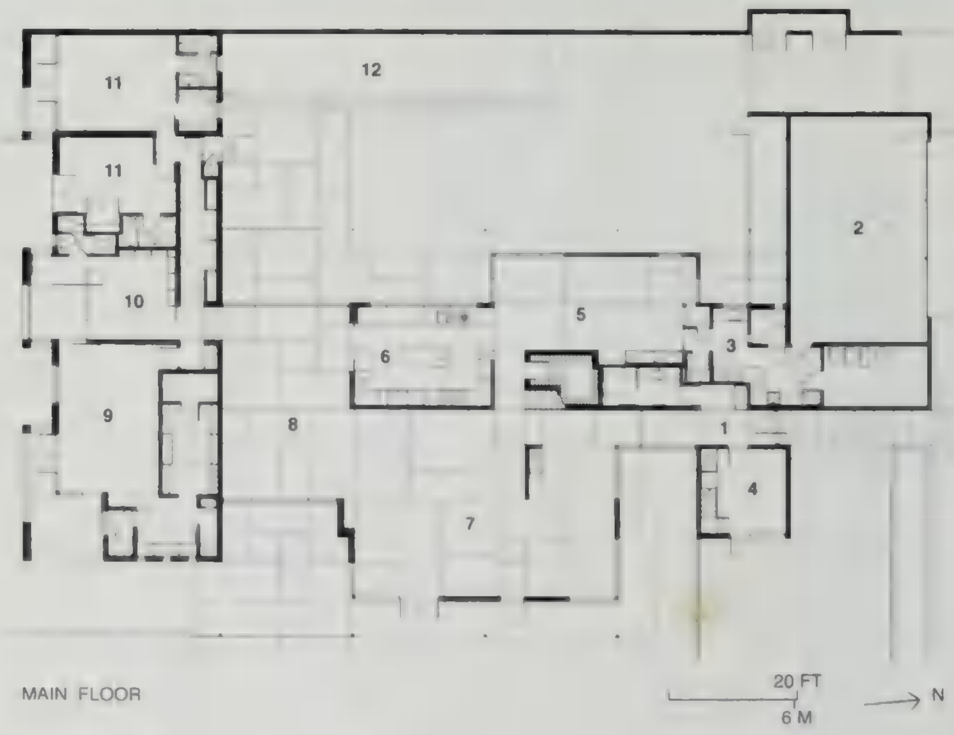
To weave together indoors and out, Mack brought exterior materials inside. For example, concrete blocks with colored cinders form a wall in the entrance foyer (left), while colored and sealed squares of concrete serve as the floor in all of the public rooms. Walls in the living and dining rooms are drywall treated with several coats of subtly colored plaster. In the dining room, the corrugated-metal roof is exposed and hung with spot lights that recall the stars outside (opposite). Floor-to-ceiling glass in the living and dining rooms bring in views of the valley and the mountains to the east (left bottom).

The spacious living areas were designed to display the large Modern artwork that the Stremmels collect and sell. A cast-bronze horse by Deborah Butterfield stands along the entry axis, while a striped ceramic "dango" by Jun Kaneko anchors a corner of the dining room (left top). The large painting in the dining room is by Richard Larson (opposite).



A study loft provides a quiet retreat, while maintaining visual connections to the living areas and the outdoors (left).

In plan, the house is organized into zones with varying degrees of privacy. In general, the public spaces, such as the living room (opposite) look onto the city and the mountains beyond, while the more private areas, such as the bedrooms, kitchen, laundry, and family rooms feed onto a grassy courtyard with its own lap pool.



MAIN FLOOR

1. *Entry*
2. *Garage*
3. *Laundry*
4. *Guest*
5. *Family*
6. *Kitchen*
7. *Living*
8. *Dining*
9. *Master bedroom*
10. *Den/exercise*
11. *Bedroom*
12. *Lap pool*

Credits
Stremmel House
Reno, Nevada
Owners: *Peter and Turkey Stremmel*
Architect: *Mack Architects—Mark Mack, principal; Robert Flock, project architect; Gloria Lee, Tim Sakamoto, Robert Does, project team*
Architect of Record: *Leo Parker*
Engineers: *Parker/Reznik (structural); Fricke Engineerin (septic & soil)*
Consultants: *Peter Walker (conceptual landscape design); Terri Hunziker (interior design*
General Contractor: *Michael Doherty Construction*

sland Retreat Fits Rocky Site

Island House: Tikamaga
Decatur Island, Washington
Miller/Hull Partnership
Architects

nging to a rocky point on one of the San Juan Islands, this house by ne Miller/Hull Partnership serves as the weekend getaway quarters or a family of four, with a backup-studio for the graphic-artist patri- rch. His studio is quiet, private, and separated from the house, but is lly wired to his main office in Seattle, so that two-day weekends nay easily be stretched into three. The house is not untraditional for ne region, except for its response to an unusual site condition, its use f indigenous woods, and its special detailing, intended to resist vood's tendency to decay rapidly in this climate.

o preserve the natural beauty of the island, the views and trees, andowners may only build within a 100-foot-diameter circle on their ots. This geometry problem established the unusual layout of the ouse: the main portion of the house is angled away from the studio to eep it within the limit. A walkway from the access road terminates at ne glass-covered porch separating the main house from the studio nd guest room—its central location a reflection of its importance as a lace for family gatherings and socializing. A large, glazed barn door nat covers the entry-side of the porch can be pushed open to catch a ross-breeze, or closed during inclement weather.

uilding materials were delivered by barge. The house is constructed nainly of woods indigenous to the Northwest: cedar board-and-batten ding and shingles, hemlock ceilings, and fir trim, casework, and ructural members. All are stained in colors that reflect the gray and range stands of madrone trees on the site (right). The open kitchen, ining, and living room, which flows out onto the upper deck, reflects ne weekend home's informality. Upstairs every possible inch of space as been used to its best advantage.

he detailing is simple and elegant. For example, the double sliding- lass doors that lead to the upper deck, and the windows on each side, ave no exposed headers, and no exposed upper track—these are cated in the wall above the ceiling, and the doors suspended from ack hidden in a slot. The upper deck itself is detailed with similar ioughtfulness—the braces and columns that support the roof above e secured by pinned joints rather than shelf angles, so the wood can ain rather than rotting away in the rainy climate. The same brack- s also carry tension rods that support a steel pipe that carries the r end of the deck. "It's always harder to make these details work ian one thinks," says architect Robert Hull, "but they have a useful irpose." *Charles Linn*

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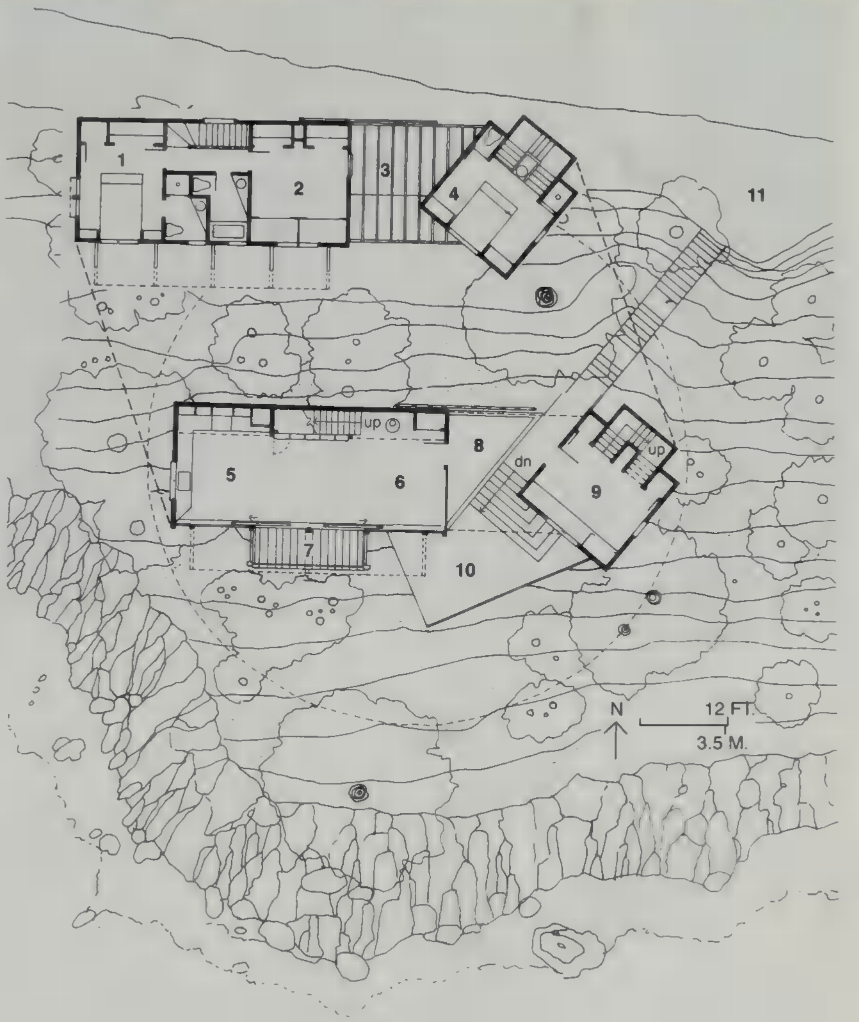


wo views of the house from the ater (opposite and right above) ow the angled relationship tween the main part of the ouse and the studio/guest room. he dashed circle on the plan dicates the lot's construction nit. The limit is intended to reserve views for other houses the area, and to keep too any trees from being removed.

1. *Master bedroom*
2. *Children's room*
3. *Glass porch roof*
4. *Guest room*
5. *Kitchen/dining*
6. *Living room*
7. *Upper deck*
8. *Covered porch*
9. *Studio*
10. *Lower deck*
11. *Access road*

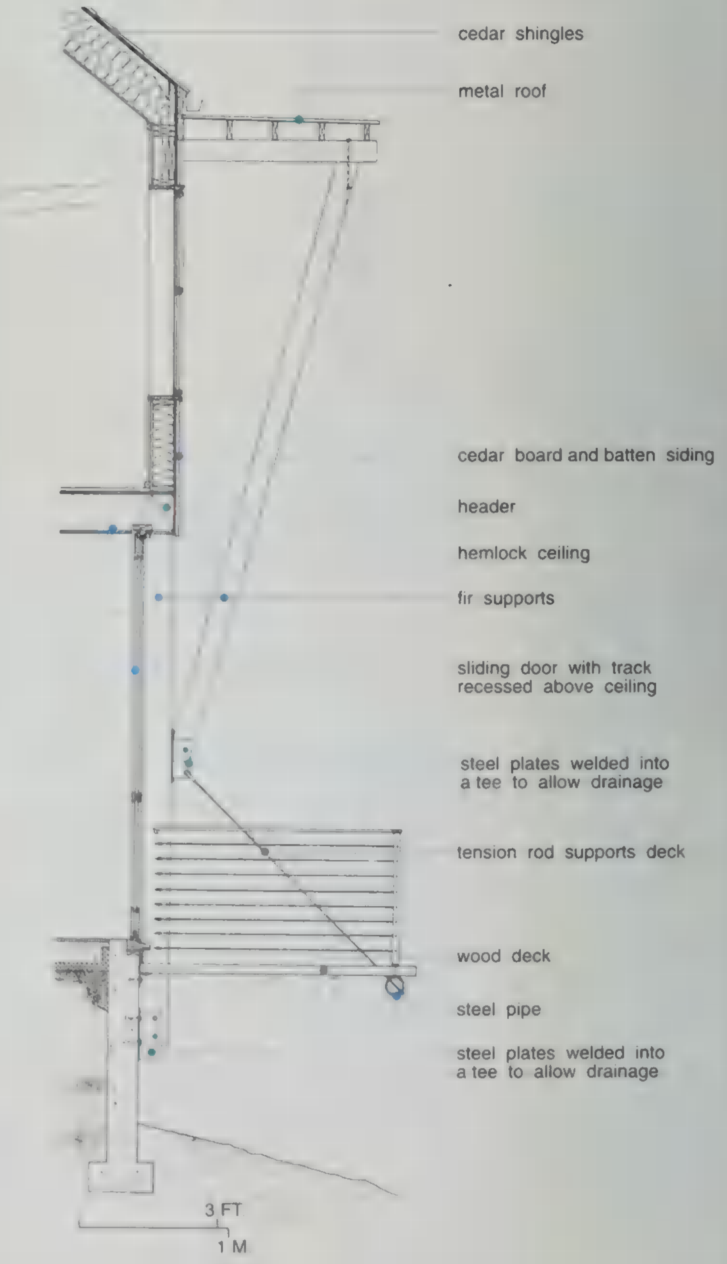
The glass-roofed porch (right in top photo) is sited at an angle from the house in order to make the entire structure fit into the lot's 100-foot-diameter building limit. The glazed barn door can be rolled open or closed according to weather conditions.

In the master bedroom (bottom left) every inch has been used to its best possible advantage—much space has been devoted to storage in closets and nooks. The headboard (foreground, below left) contains a built-in storage space, and supports a pair of reading lamps. The bed is oriented to give it a view of the water.

The color pallette of the materials chosen for the house—the orange fir, hemlock ceiling, and gray-stained cedar siding—is derived from the orange and gray bark of madrone trees found outside the house. In order to keep the living and dining room (opposite, and wall section) as open to the view as possible, the door headers and sliding door track were concealed above the ceiling line. The T-shaped brackets allow water hitting the structural members to drain, so that rotting of their ends does not occur. The diamond-shaped light fixtures in the ceiling were custom-designed by Miller/Hull.

Credits

Island House: Tikamaga
Decatur Island, Washington
Owners: *Tim Girvin and Kathleen Roberts*
Architect: *Miller/Hull Partnership—Robert Hull, partner-in-charge; Victoria Carter, project architect*
Engineer: *C.T. Engineering (structural)*
Contractor: *Avery Builders*


cedar shingles
metal roof
cedar board and batten siding
header
hemlock ceiling
fir supports
sliding door with track recessed above ceiling
steel plates welded into a tee to allow drainage
tension rod supports deck
wood deck
steel pipe
steel plates welded into a tee to allow drainage
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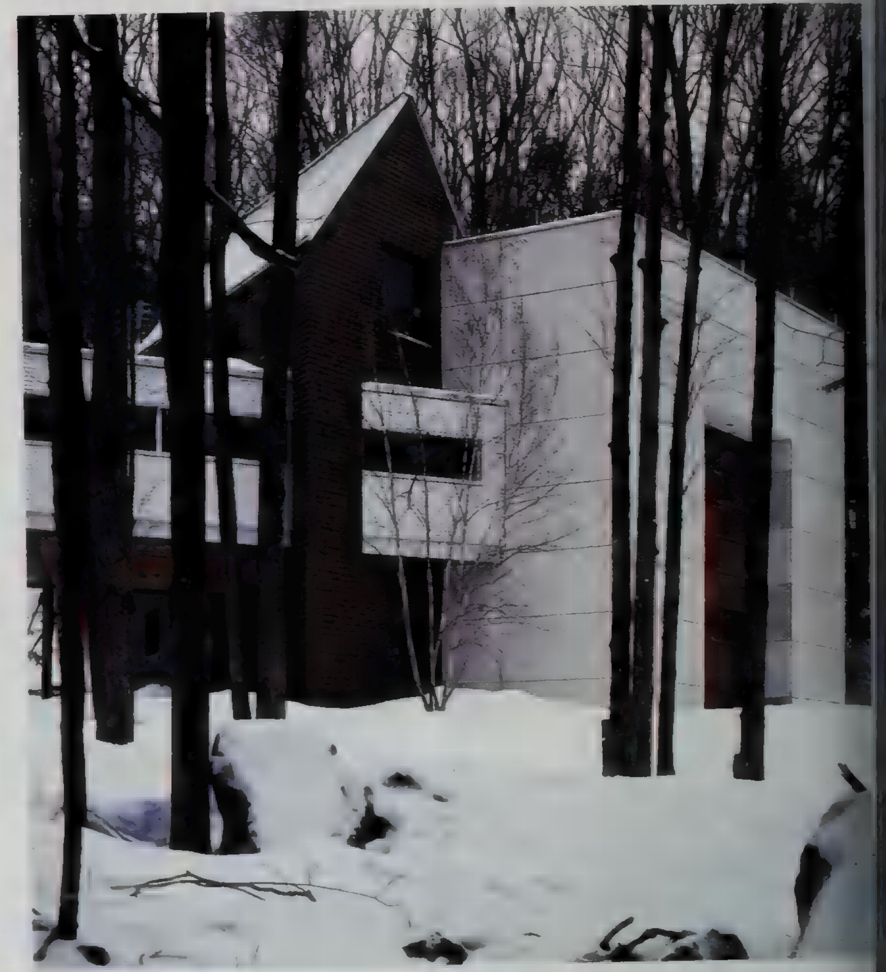
Annex Supports Varied Pursuits

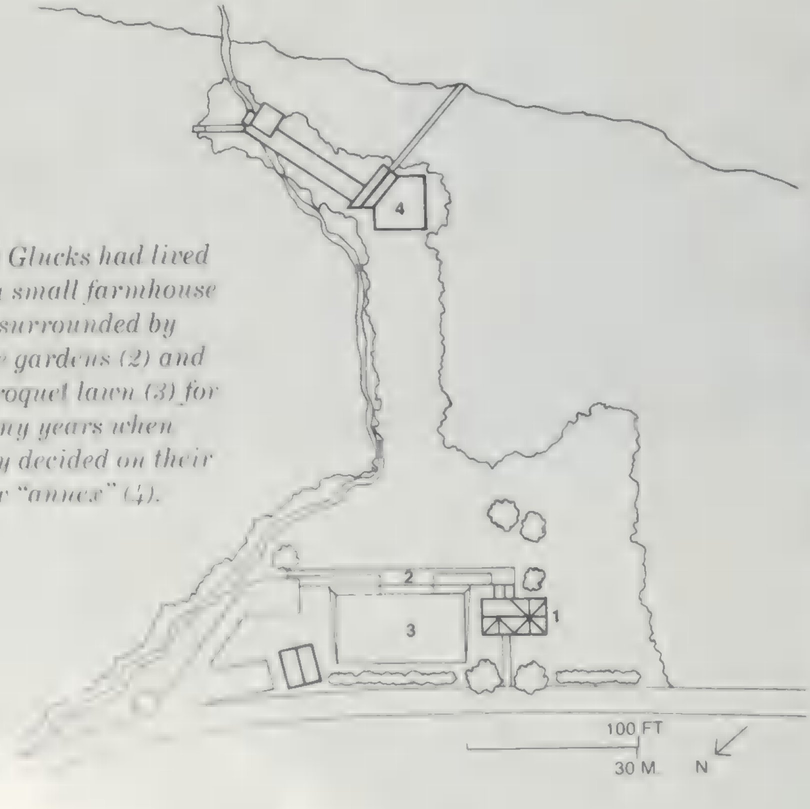
Bridge House Retreat
Olive Bridge, New York
Peter Gluck and Partners, Architect

For architect Peter Gluck's family of four, its new 3,000-square-foot annex to a much smaller nearby house (site plan below) embodies more than simply expanding a weekend retreat. It shows how to accommodate a unified group of people's differing needs in a single location. "We spent a lot of time rethinking how we live," says Gluck, talking about the maturing family's increasingly diversified pursuits and habits, not to mention its widening circle of friends and acquaintances. Their traditional little farmhouse in New York's rural Catskill Mountains, which had served well for 20 years, had begun to burst at the seams with too many activities and people.

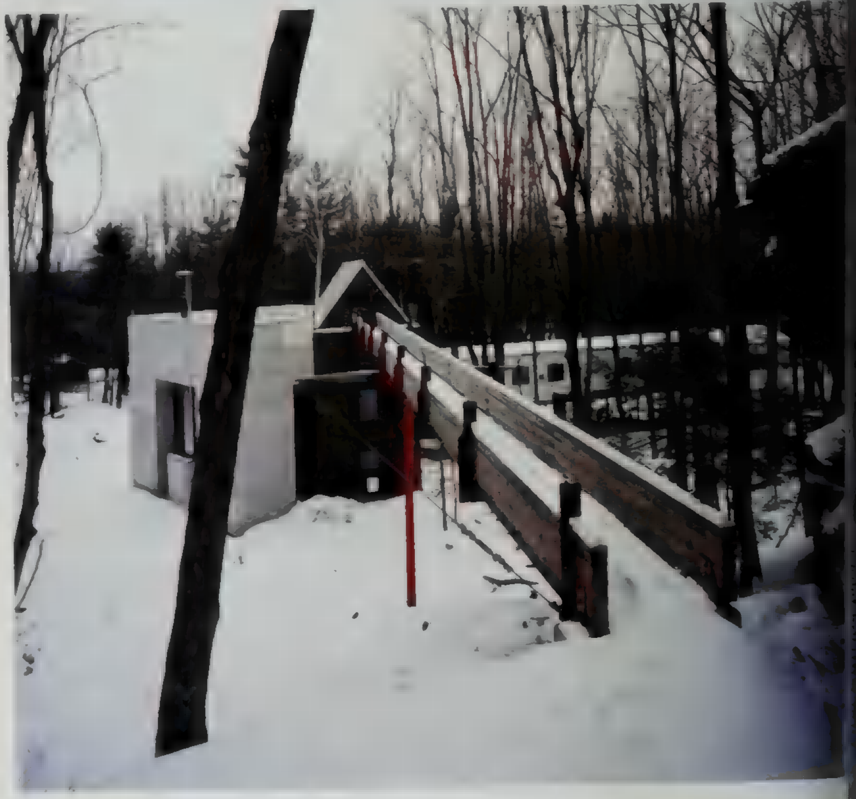
Nor did the formal character and gardens lend themselves to the extensive, innovative addition the family had in mind. Instead, Peter Gluck and son Thomas chose a site far up an allée through the woods toward the back of the 18-acre property where they could freely experiment with new ideas about planning, massing, and construction. They had several criteria:

- The family's guests and two younger members could live and work independently, for as long as they liked, and come together only when they pleased, in a large welcoming common area. The result (projected plans, following pages) was a large multi-use space housing varied functions on several levels and a wing containing four tightly planned dormitory-style rooms plus one larger bedroom. Each room in the wing has a desk, ample storage, and computer hookups where, as Peter Gluck puts it, "the studious can explore the libraries of the world, while others go skiing, hiking, or rafting."
- The new building would respect the original house's character, but take full advantage of a natural wooded site—a transitional spot



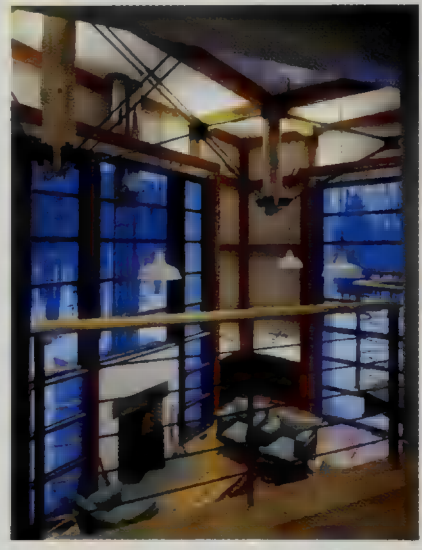


The Glucks had lived in a small farmhouse (1) surrounded by rose gardens (2) and a croquet lawn (3) for many years when they decided on their new "annex" (4).



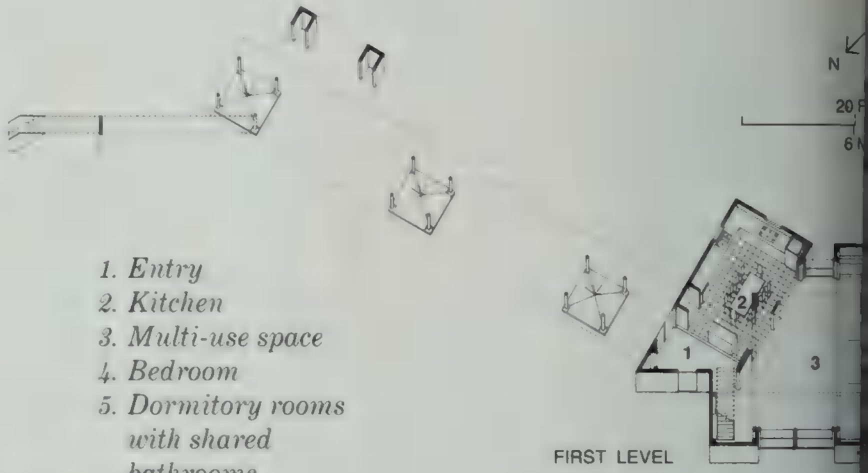
[illegible] the old lawn and the trails in the untamed woods high atop a rock ledge beyond. To accomplish this dual role, the white symmetrical facade of the multi-use block was built to resemble a folly when viewed from the distant house, while the rest of the structure becomes more and more informal as it disappears into the woods.
- The structure would be a composite of many innovative materials, forms, and construction techniques. This was affordable only because Thomas Gluck took two years to build it himself with the help of a carpenter and an assistant.

The rectilinear multi-use space (this page) has heavy post-and-beam framing, exposed on the interior by Gluck's attaching insulated wood-stud curtain walls to the outer face. The exterior finish is 5/16-inch concrete panels with a 1 1/2-inch airspace behind to further block solar-heat gain. Roof framing is an inverted king-post-truss system of log-support compression members suspended from the outer framing by 3/4-inch tensile cables. Foundations were built on compacted soil with a surrounding dam to drain away ground water runoff from the ledge. The elevated bedroom wing bridges a stream and gives occupants tree-top views. Clad in corrugated aluminum-and-zinc-plated steel, it is likened by Thomas Gluck to a railroad car complete with pull-down bunks. This wing stands in the air on columns laterally stabilized by bracing cables sunk into deep concrete pads that taper from 12-feet square at their base. Bridges extend the house out into the woods, including one 85-feet long stretching from the roof terrace over the multipurpose space. *Charles K. Hoyt*



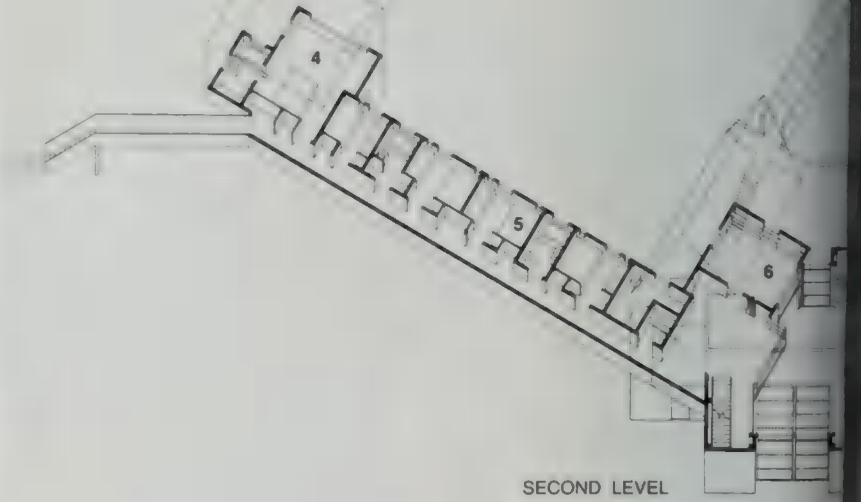
The multi-use space (right in plan) includes overlooking balconies designed to house a study and pool table on the second level and a studio for the senior Glucks on the third. The angled walls in the basically rectilinear box are created by superimposing a conventionally built gabled building with cedar siding (dotted lines, lower plan). The mahogany windows were built by Thomas Gluck on site. Seven-foot-square sections rise easily, counterweighted by bricks sliding on steel rods.

Credits
Bridge House Retreat
Olive Bridge, New York
Owners: *Peter and Carol Gluck*
Architect: *Peter Gluck and Partners—Thomas Gluck, designer*
Engineer: *Ruderman Associates (structural)—Michael Theiss*
Builder: *Thomas Gluck*



FIRST LEVEL

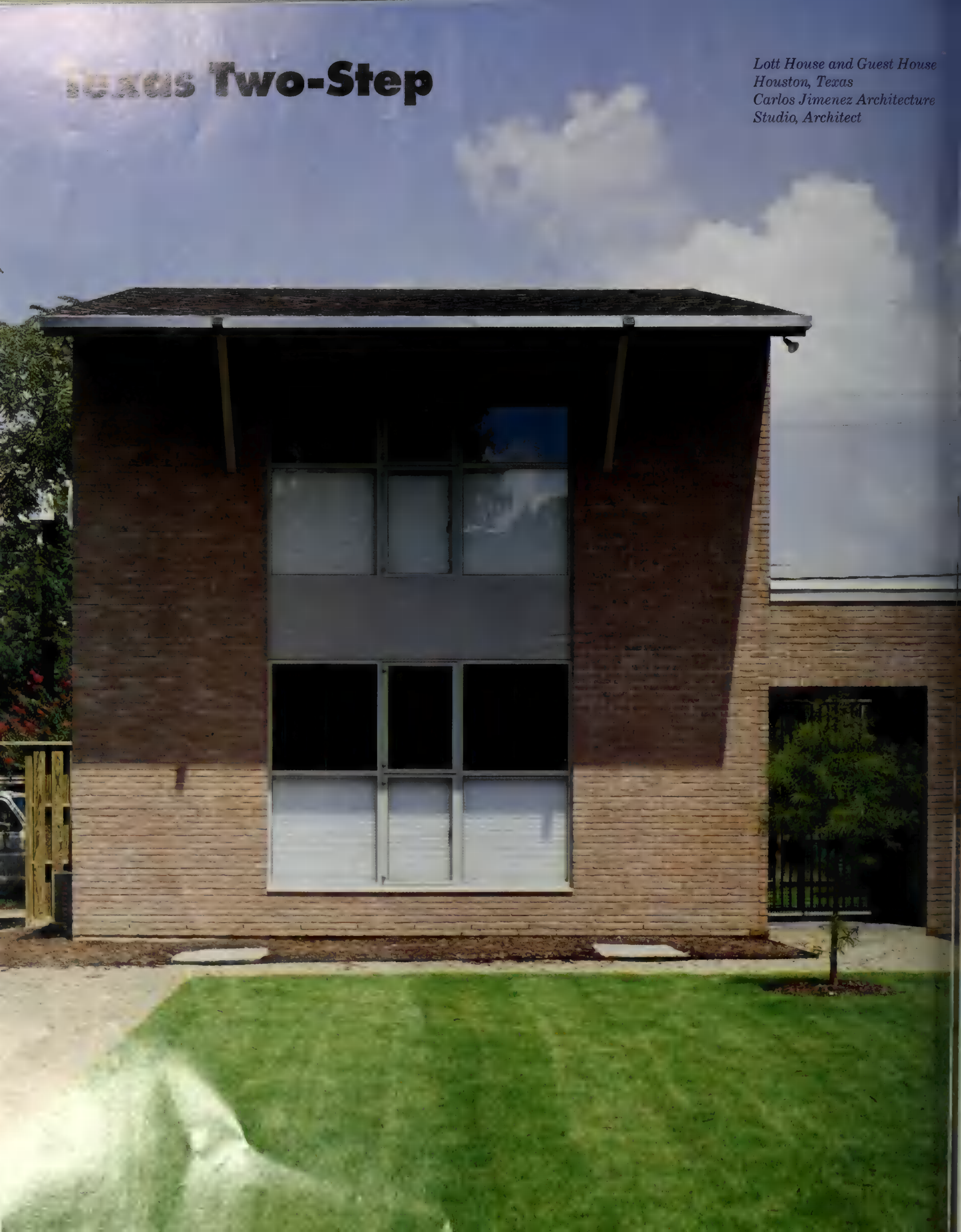
1. *Entry*
2. *Kitchen*
3. *Multi-use space*
4. *Bedroom*
5. *Dormitory rooms with shared bathrooms*
6. *Library*



SECOND LEVEL

Texas Two-Step

Lott House and Guest House
Houston, Texas
Carlos Jimenez Architecture
Studio, Architect

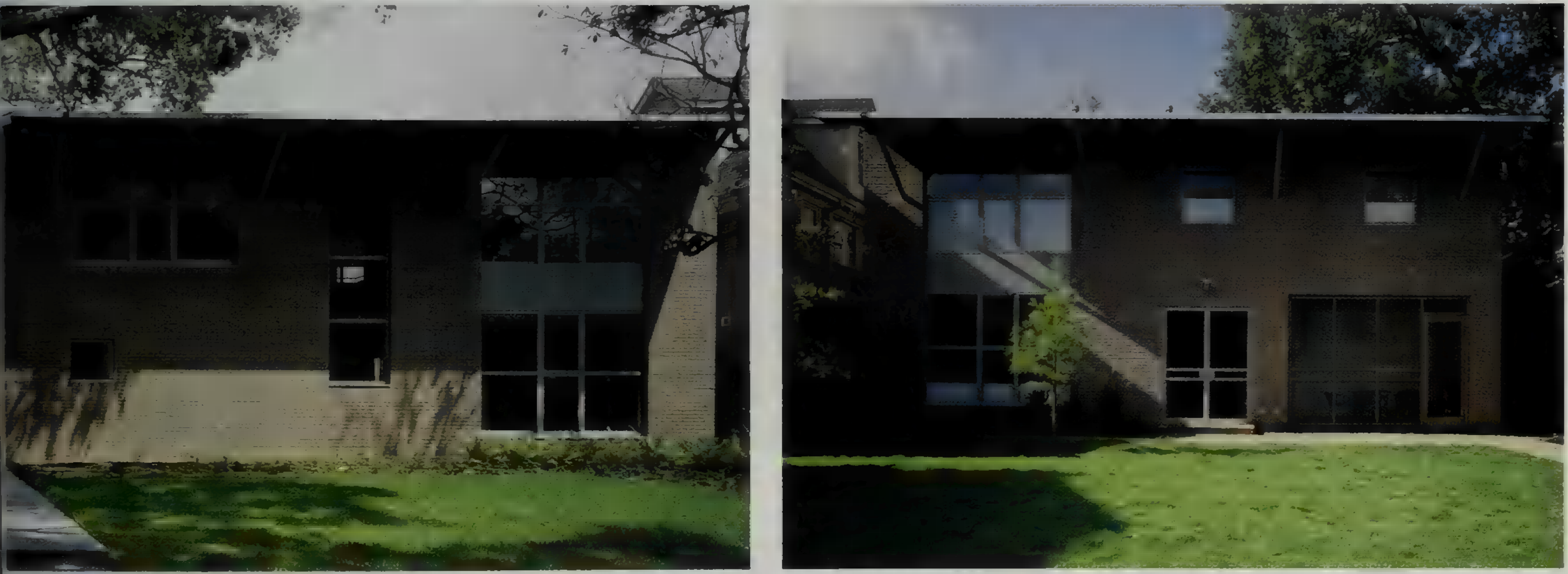


os Jimenez's architecture abides by Willa Cather's maxim that art uld simplify. It's been nearly 20 years since Jimenez moved to uston from his native San José, Costa Rica. During that time (first a student and since 1983 as head of his own small firm) he has con- tently refined his approach to program, site, and form—so much so t the end result—the building—has about it an air of ultimate rity. A city known as an architectural free-for-all due to a lack of ing restrictions and a tepid landmark-preservation policy ironical- has proven an ideal setting for an architect in search of the lost ues of simplicity and permanence.

s reputation in his adopted home was, until recently, based largely the many houses he has done there: 16 (with five more sprinkled und the state and country). When he completed the Central ministration and Junior School Building at Houston's Museum of e Arts [RECORD, January 1995, pages 70-77], a 60,000-square-foot ministrative and teaching facility, over a year ago, it was clear he l mastered a larger scale. And, as part of an arts campus with a sterplan by Venturi, Scott Brown & Associates, an original seum by Mies van der Rohe, and new gallery space by Rafael neo planned for a 1999 opening, he is clearly no longer a house hitect in the public eye. Though if Jimenez has his way he will ays be doing houses, and more, because it is the mix of building es that has taught him to reconcile seemingly conflicting impulses. "To respect intimacy without sacrificing public presence," says Jimenez of his self-imposed challenge. "As an architect you need both great proximity and a perspective."

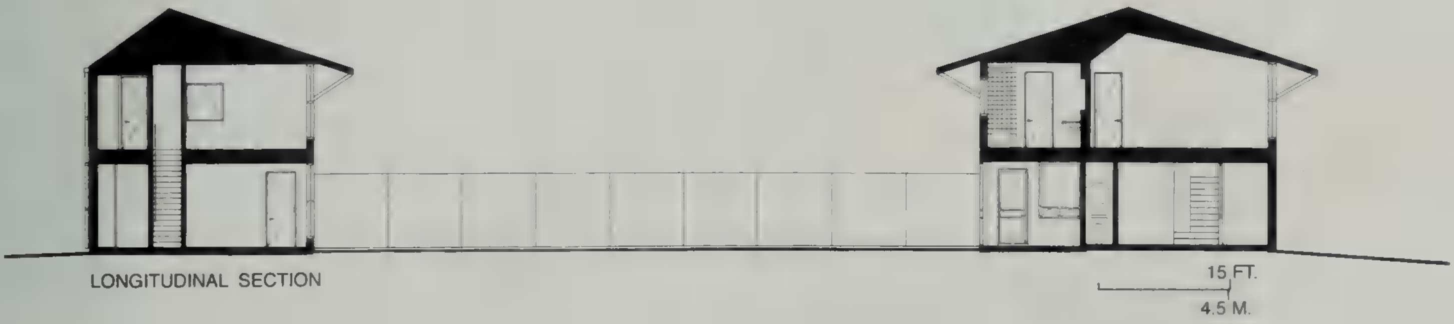
The constant shift between small-scale detail and public stature shows in this house, located on one of Houston's tree-lined boulevards. In organizing the 60-foot by 135-foot lot, Jimenez was guided by client Marley Lott's desire for a two-bedroom house—"first, he asked me to tell him the *least* that I wanted," recalls Lott of the programming process. A separate guest house was quickly incorporated into the scheme because, Lott reports, the architect also "asked me what was my one luxury."

To provide a sense of place in neighborhood in flux (a house next door was recently replaced by four units), Jimenez made the only governing architectural rules—the setback requirements—into the outline of the house (30 feet from the main street, 10 feet from the west side and 5 feet from the east), and of the guest house and carport (same side setbacks and 10 feet from the back alley). While giving order to the compound, the scheme frees the center of the site, allowing it to become a miniature grassy mall. "The program is so intertwined with the site," observes the architect, "it's more about discovering a place than making one." "I wanted a place of repose," says Lott. "And he gave it to me." *Karen D. Stein*

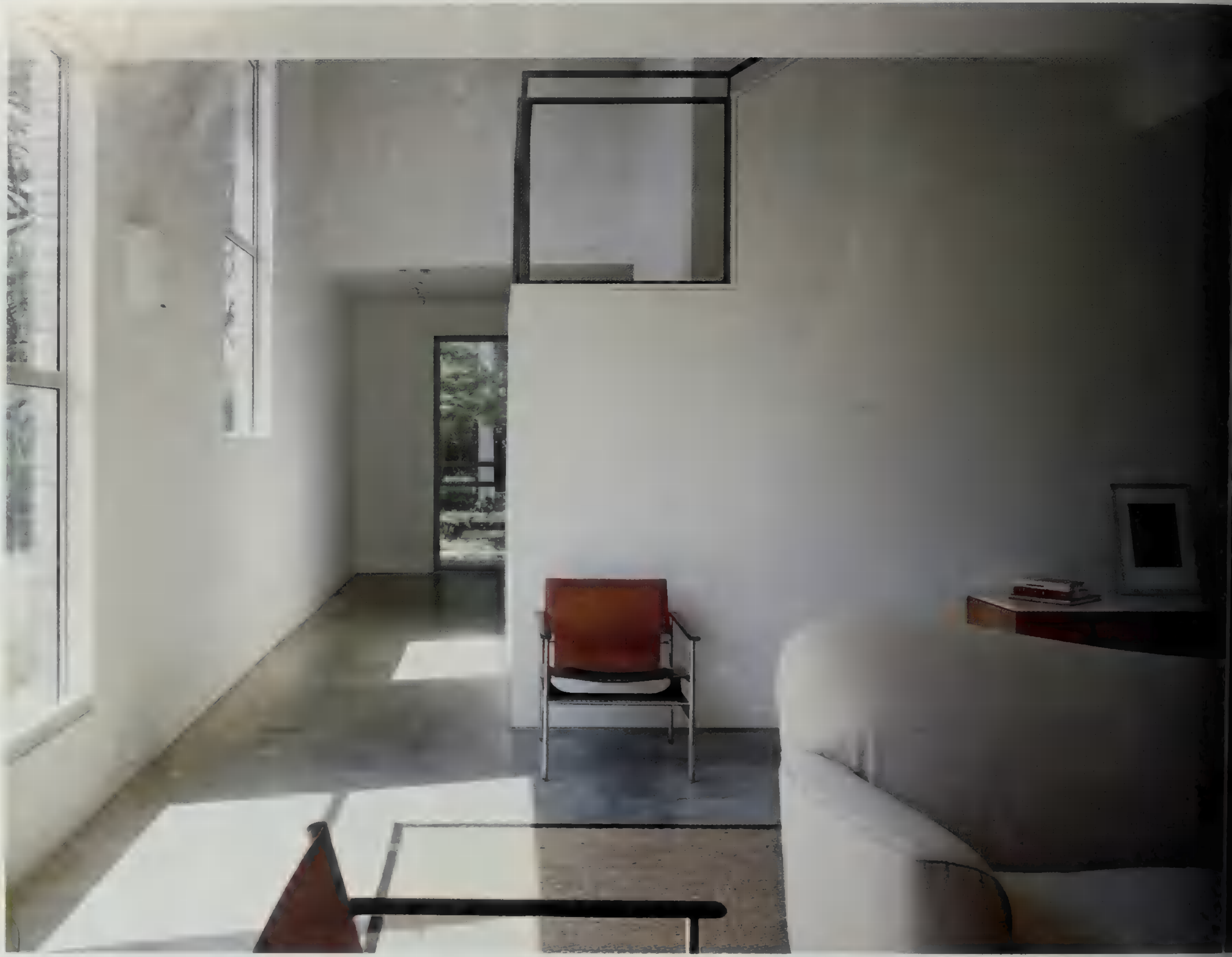


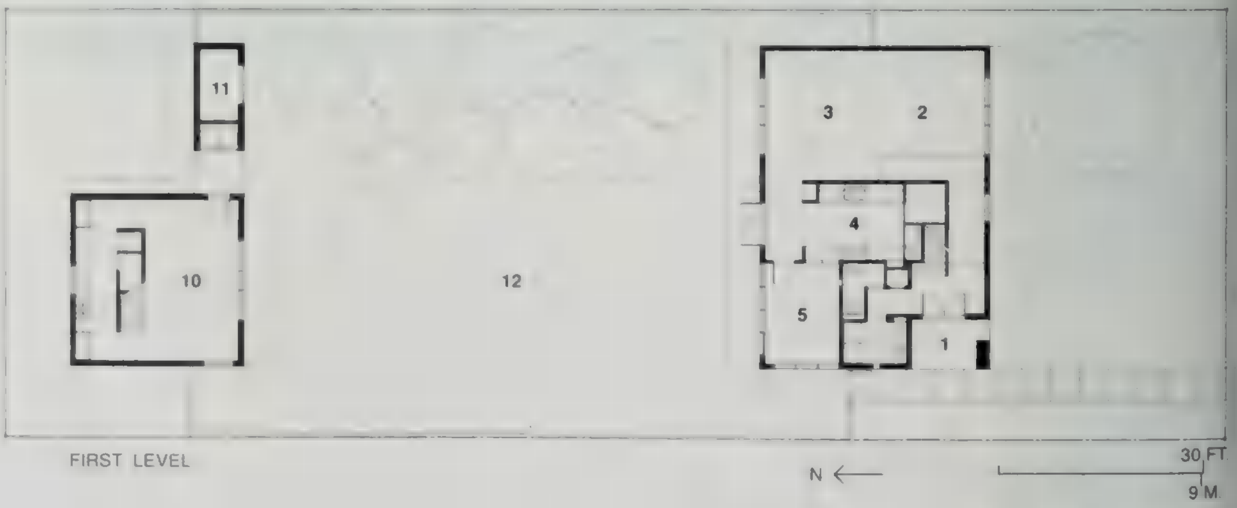
ester & Hardaway Photographers photos

The main house faces Houston's famed South Boulevard (top left), lined with majestic oaks, and is entered from a path that leads to the west side of the house. The south side has a screened porch integrated into the main volume (top right). The deep roof overhang of the guest house (opposite) echoes the profile of the main house.



LONGITUDINAL SECTION

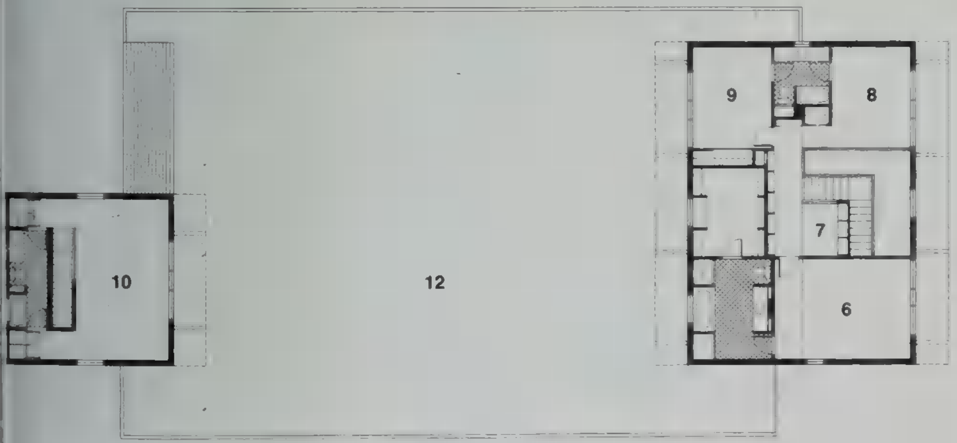




1. *Entry*
2. *Living room*
3. *Dining room*
4. *Kitchen*
5. *Porch*
6. *Master bedroom*

For Jimenez's direct esthetic to come off as poetic and not simple-minded, the detailing of joints has to be virtually invisible. Toward that end, he ranked finishes, balancing use, visual effect, and cost—in his words "calibrating the choice of materials." While Jimenez used maple on the floors upstairs, concrete floors were left raw downstairs to afford operable steel windows throughout. These provide a crisp edge to the exterior brickwork and generous cross-ventilation inside.

Credits
Lott House and Guest House
Houston, Texas
Owner: *Marley Lott*
Architect: *Carlos Jimenez Architecture Studio—Carlos Jimenez, principal-in-charge; Robert Fowler, Mason Wickham, Eric Batte, project team*
Engineer: *Structural Consulting Company—Jon Monteith, Ciarinn Higgins, project team*
Consultants: *Carlton Cook Company (custom furniture/cabinetry); Rosa Finsley (landscape)*
General Contractor: *Anderson Builders*



SECOND LEVEL

7. *Library*
8. *Bedroom*
9. *Study*
10. *Guest house*
11. *Car port*
12. *Garden*

House Hovers Over Desert Site

Burnette Studio/House
Sunnyslope, Arizona
Wendell Burnette Architect

Colored fields caught in cruciforms of steel tint the desert "Mondrian" Wendell Burnette has built for himself and his family in the Sonoran desert near Phoenix, in Sunnyslope, Arizona. He started with basic materials often found in commercial construction of the lowest order: masonry, steel, concrete, and glass, and transformed them into a finely detailed home that seems to hover over the desert landscape.

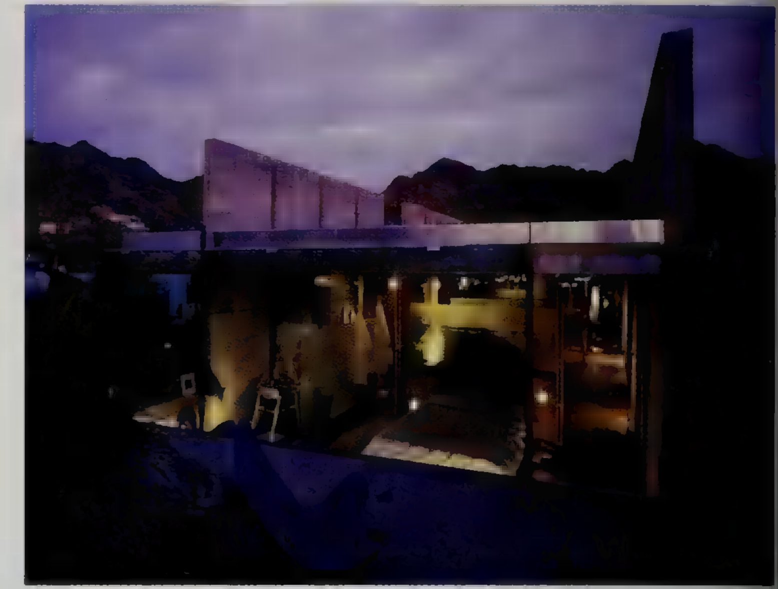
Burnette started with a small, quarter-acre site in an unfashionable part of town. Because it was north of the irrigated areas that used to fill the Valley of the Sun and is thus free of pollen, Sunnyslope originally was developed as a haven for patients with tuberculosis and other respiratory problems. In the 1950s, it turned into a slightly seedy, but adventurous "anything goes kind of Modernist neighborhood," as Burnette puts it; "a place where everything looks to the views and ignores the street. I like to think of it as the Hollywood Hills of Phoenix." This particular site had a "scar"—an abandoned road that marred the delicate ecosystem of the desert.

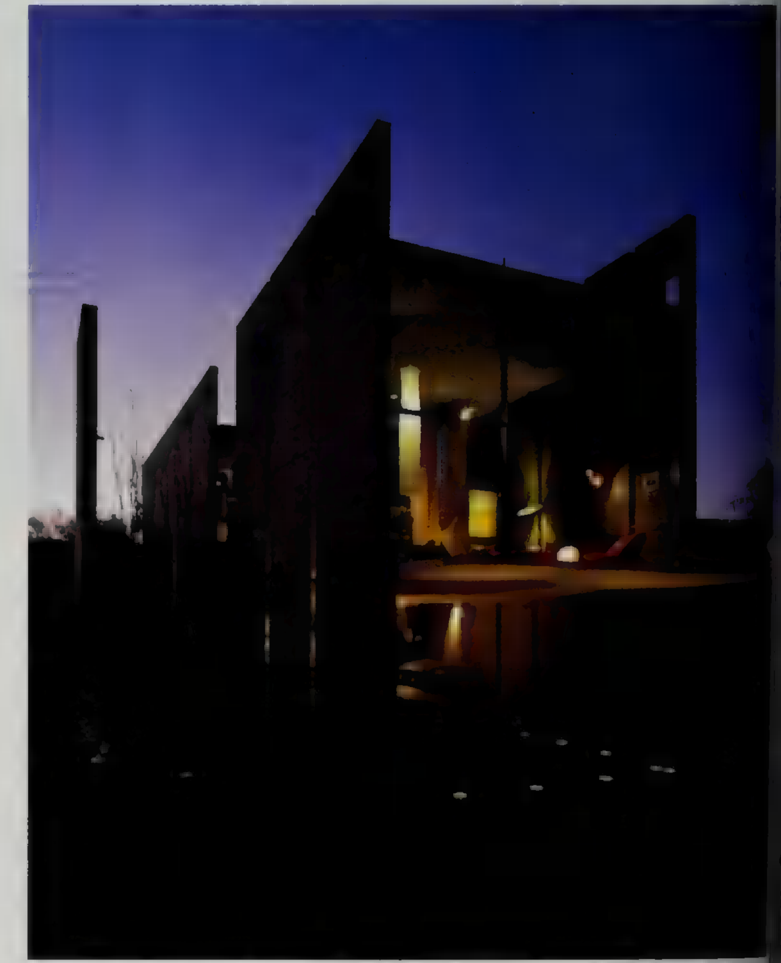
The scheme used by Burnette to create the 1,160-square-foot home he shares with his wife Debra, a landscape designer, and Robert, their 15-year old son, was what he calls a "band-aid" over that left-over mark. Occupying the roadbed and not much else, the 16-foot slot of the house touches down lightly on the desert floor: two footing lines support the north and south concrete block walls, and poured-in-place concrete-floor slabs are suspended between them. There was little other excavation: one cut into the earth to accommodate the master bedroom, set into the desert floor to the rear of the property, and another beneath the central courtyard to create a shallow pool for evaporative cooling, complete the $1,500 worth of grading work Burnette did with a back-hoe.

"I like to think of the walls as monoliths, a little like Stonehenge," Burnette explains. The south wall comes in eight-foot sections, while the north wall has a four-foot rhythm. This creates patterns of light, while blocking out the direct sun and views of hodgepodge neighboring structures. As with Le Corbusier's Villa Savoye, one drives along the old road between these walls and right into the house. Entry is under a floor slab via a small courtyard, where steel stepping platforms lead to a living area over the carport, or up a step-ladder-like construction onto a second slab with two bedrooms.

"I am a detail-oriented kind of guy," Burnette admits, "but it is the details that make a good space." Trained at Taliesin and otherwise "self-taught" during a decade as a designer in the office of local architect Will Bruder, Burnette claims to be carrying on the traditions of Frank Lloyd Wright, "who didn't just make pretty drawings, but started a tradition of innovation here that is his real legacy." The result is an absolutely minimal marvel of simple forms that make a fit frame for the desert Southwest. *Aaron Betsky*

© Bill Timmerman photos

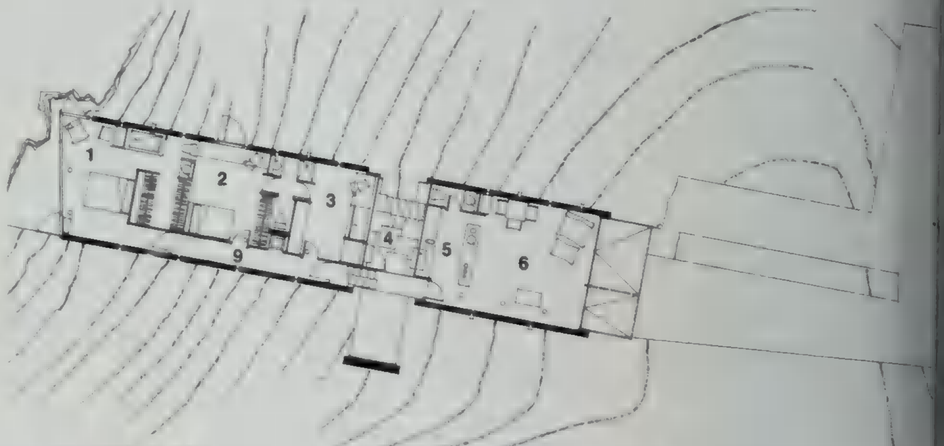




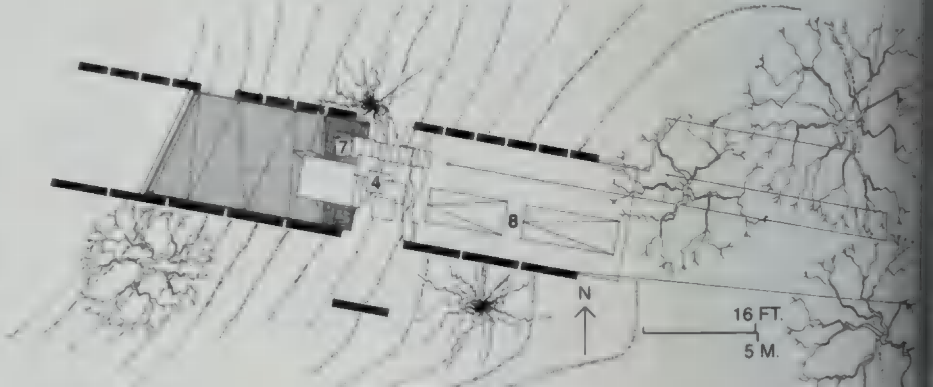
Rather than creating an isolating capsule, architect Wendell Burnette designed a "desert canyon hike" that moves you between shading walls and water to a high place where you can capture a view over the desert. The house appears to cantilever both horizontally and vertically, so that it lifts up off the rocky jumble on the desert floor.

The "monoliths" that frame this desert house are actually a hybrid. Conventionally-reinforced concrete block was laid up to the first floor, and topped by a locally-produced H-shaped super-lightweight block that was vertically post-tensioned. The wall has an R-28 heat-resistance rating. "It's a single-stroke solution: thermal, structure, inside and outside finish," says Burnette.

The perpendicular walls (right) are either tinted or clear glass. Burnette achieved the colors by using on-site auto-glass-tinting technology "so that I could, control the color and degree of privacy." A deck (opposite) shades an entrance courtyard that serves as the bridge between public and private spaces.

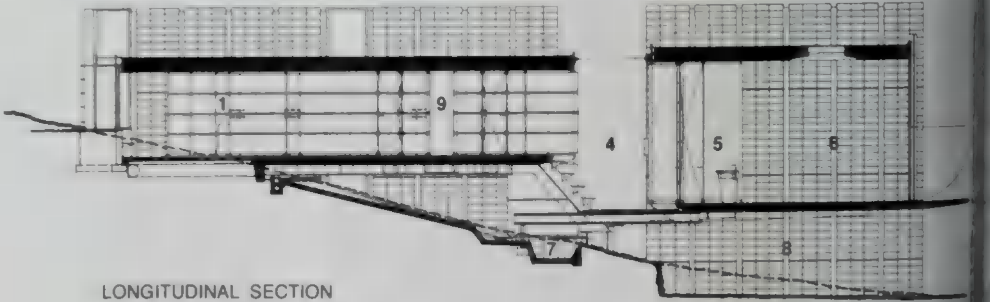


SECOND FLOOR

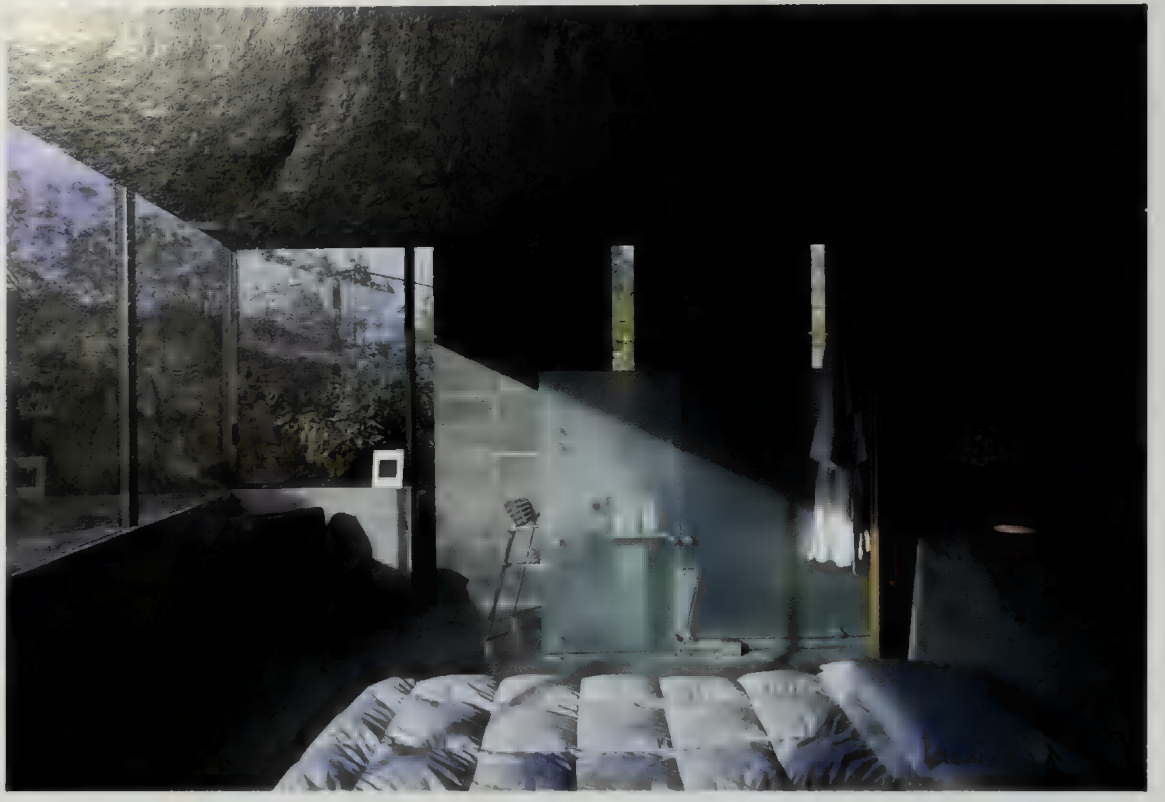


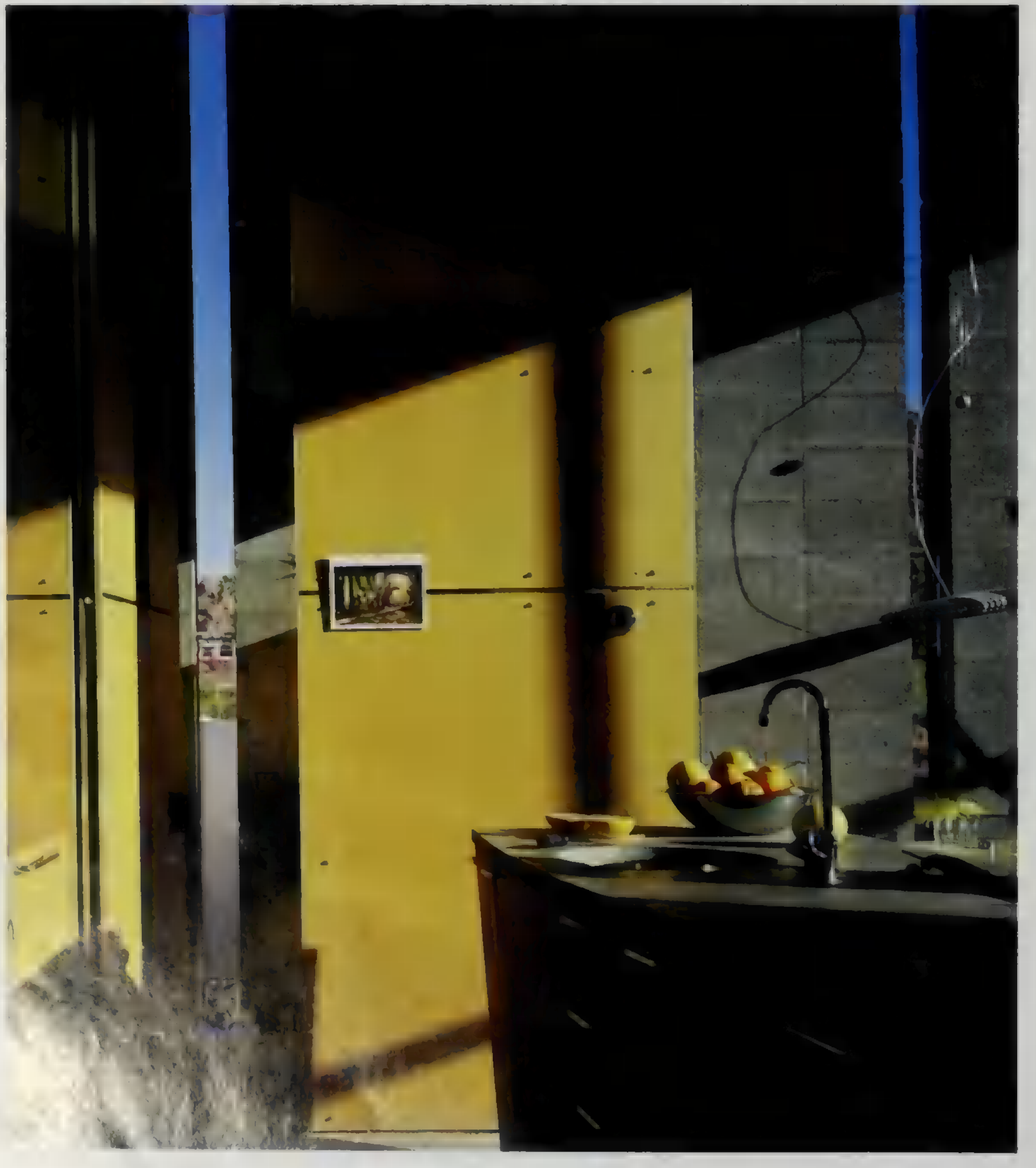
FIRST FLOOR

1. *Master bedroom*
2. *Bedroom*
3. *Studio*
4. *Entry court*
5. *Kitchen*
6. *Living room*
7. *Evaporative pool*
8. *Car port*
9. *Corridor*



LONGITUDINAL SECTION





The slots (left top and opposite) provide slivers of the view to the sides, while acting as a "sundial" that makes one aware of the time of day "even when you're brushing your teeth or taking a shower."

The interior wall panels were originally the formwork for the roof slabs. To maximize space, all walls that run parallel to the concrete block screens are only three inches thick: they are made of plywood panels and supported by a cable-stay system. The medium-density overlay plywood has a kraft-paper-like finish that leaves a smooth-faced finish on the concrete. When cleaned and sealed, it takes on a gloss like "the varnish of hundred-year old leather." None of the steel was sandblasted, and all connections are clearly visible.

"All the materials came to site and then we erected them," says the architect; "we didn't do anything to them." All electrical outlets and conduit became part of the carefully-studied interior elevations.

Credits
Burnette Studio/House
Sunnyslope, Arizona
Owners: *Wendell and Debra Burnette*
Architect: *Wendell Burnette*
Consultants: *Turley Scott Consulting—Paul Scott (structural); Roy Otterbein (mechanical); C.A. Energy Designs—Charles Avery (electrical); Debra Burnette (landscape)*
General Contractor: *Wendell Burnette*

Rural Icon Dares to be Simple

Rural House for an Artist and a Writer
Nova Scotia, Canada
Richard Gluckman Architects

When a building is as straightforward as this house in Nova Scotia, there is no margin for error. Every false move—whether it be a badly executed joint or an awkwardly proportioned window—sticks out like a "Kick Me" sign on a pinstripe suit. There's no place to hide that ugly drain pipe or those poorly conceived sill details. Simplicity, it turns out, is remarkably difficult to pull off. This second home for an artist and a writer does it, but in the process, dances dangerously close to the line separating the simple from the obvious. Indeed, the design looks so right that it almost takes on the aura of an icon: the prototypical farmhouse that children draw in crayon or the house on a maple-syrup label (bottom right).

Through his work on a host of art galleries in New York City, Richard Gluckman had known the clients for many years. Before discussing the program or anything else about the commission, the clients spent a week with the architect traveling around Nova Scotia, photographing and measuring local barns, farmhouses, and other vernacular structures. "It was the simplicity of means in the models that generated the design of the house," rather than any one particular model, explains Gluckman. On subsequent trips around the peninsula, the clients (who are husband and wife) bought a few ruined barns and salvaged their sandstone foundations for use in their house. Eventually, these large rugged stones became important building blocks in the steps, chimney, fireplaces, and retaining walls of the new house. "It's found architecture," says the husband.

The site is on the side of a hill about 50 feet from a cliff that drops 150 feet down to the water. Two hundred and fifty acres of wooded land surround the two-acre clearing for the house. While the hillside location offers great views of the water, it has the disadvantage of catching the often brutal winter winds. Even though the house is not the clients' primary residence, they spend about five months a year there, including some time during the winter.

"The brutal simplicity of the terrain and the place" constantly reminded Gluckman and his project architect Robert White that they shouldn't get too fancy with the design of the house. "We conceived of it as a simple three-room house with each room occupying one floor," says Gluckman. While this was not literally done—there is a small study off the bedroom and there are mechanical and storage rooms in the lower-level studio—each floor has the open feeling of being one room. Simple materials are crafted together as if the house were one big piece of cabinetry, says White: African wenge wood for most floors, tongue-and-groove pine boards for walls and ceilings, and Newfoundland slate for the studio floor and entry porch. Where walls touch, where stone meets wood, where ceiling meets wall, everything lines up perfectly. No half boards or odd stones here.

As with the spaces for art he has designed, including the Andy Warhol Museum in Pittsburgh [RECORD, September 1994, pages [illegible]], the architecture here is muted so it works with, rather than [illegible] what's on display. But instead of paintings or lithographs, [illegible] attractions here are the view over the cliff and the [illegible] streams into each room. *Clifford A. Pearson*

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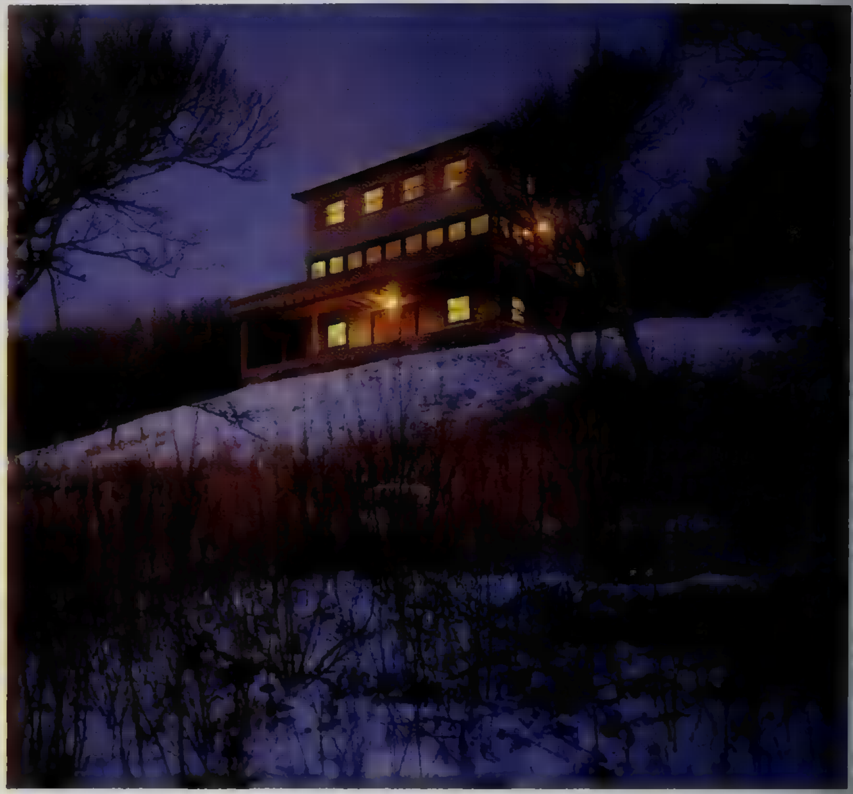
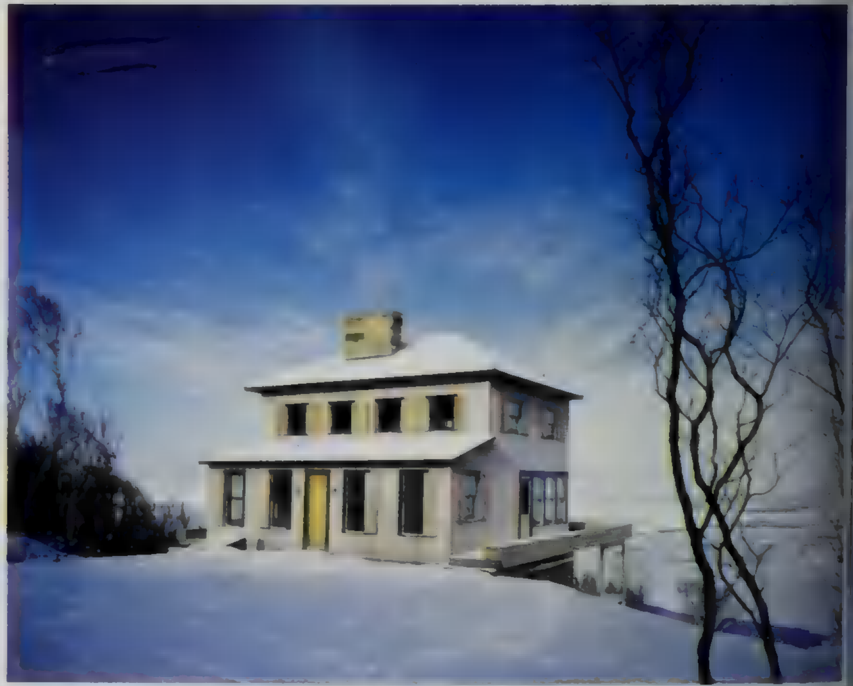
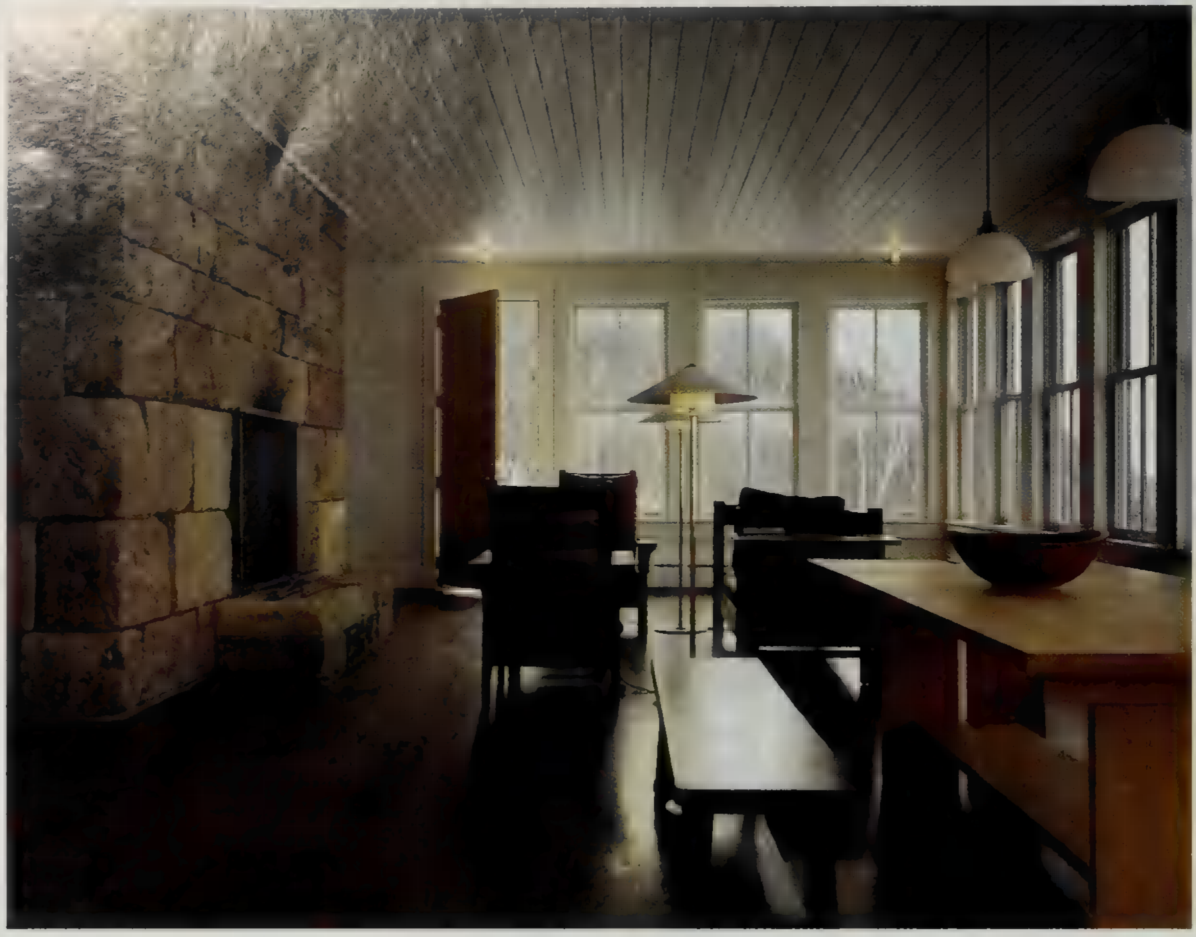




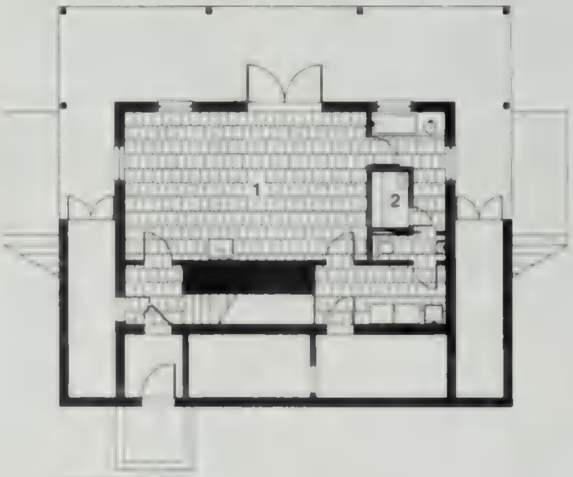
Designed and built in less than a year, the house is an oasis of domesticity in an unforgiving land (photos). Because the owners live in the house only part of the year and because the weather can be so rough, oak shutters can close up all of the windows.



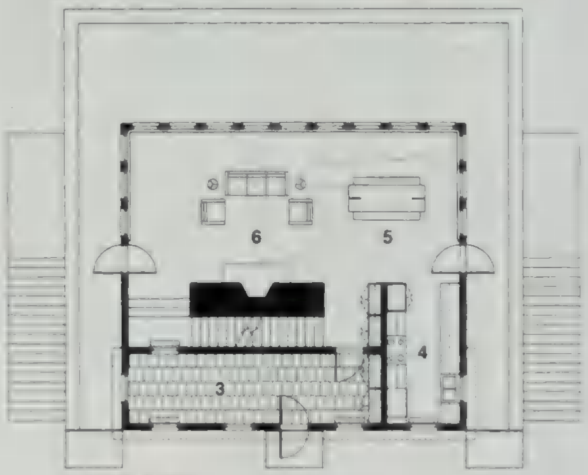
The architects designed the house "almost as if we were renovating a found structure," says Gluckman. This meant creating interiors where the simplicity of the spaces, materials, and detailing became the key element in the entire design.

Using the clients' collection of Gustav Stickley furniture, the architects designed a living room in which the proportions of the windows, the materials, and the light complement the furniture (left). "We worked from the inside out," says Gluckman. The clients say they find spartan spaces such as the kitchen (opposite) "very pleasurable, though not luxurious."

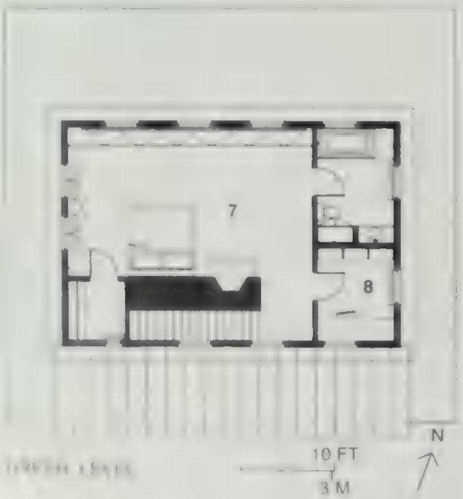
Credits
Rural House for an Artist and a Writer
Nova Scotia, Canada
Architect: *Richard Gluckman Architects—Richard Gluckman, partner-in-charge; Robert White, project architect; Steven Learner, designer; Patrick O'Brien, draftperson*
Engineer: *Janega Engineering*
General Contractor: *B.A. Watson Construction*



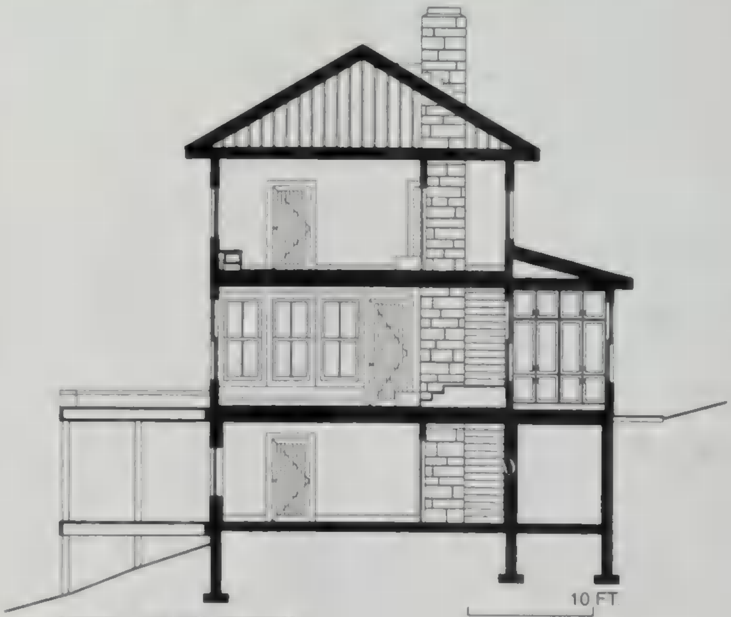
LOWER LEVEL



MIDDLE LEVEL



UPPER LEVEL



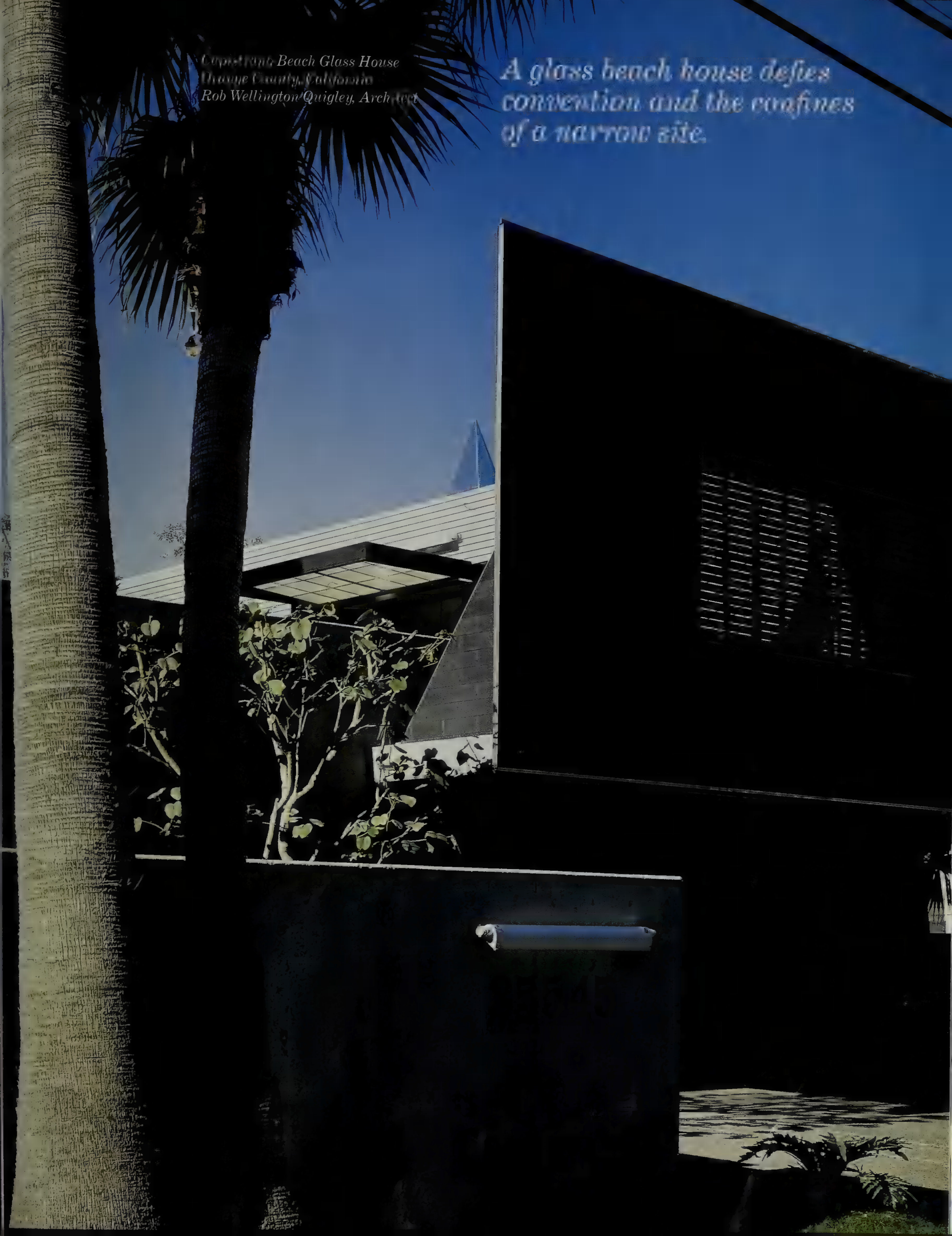
NORTH - SOUTH SECTION

1. *Studio*
2. *Sauna*
3. *Mud porch*
4. *Kitchen*
5. *Dining*
6. *Living*
7. *Bedroom*
8. *Study*

Beach Comber

Capistrano Beach Glass House
Orange County, California
Rob Wellington Quigley, Architect

A glass beach house defies convention and the confines of a narrow site.



a strip that was once a hodgepodge of ocean-front wood cottages—
ostly weekend getaways for inhabitants of San Diego or Los
ngeles—Rob Wellington Quigley has built a full-fledged house of
oured-in-place concrete caissons and cantilevered concrete floor
labs that is both kinetic sculpture and retreat. While a weathered
luff nearby offers more prominent building sites at the risk of storm-
elated landslides, this narrow swath is right along the shoreline, and
ver the years real-estate prices have increasingly come to reflect its
tatus on the beach. A gatehouse at the beginning of the road moni-
ors all traffic within the mile-or-so-long community, so the air of
nformal Pacific Ocean beach community is offset by an aura of
ecluded privilege.

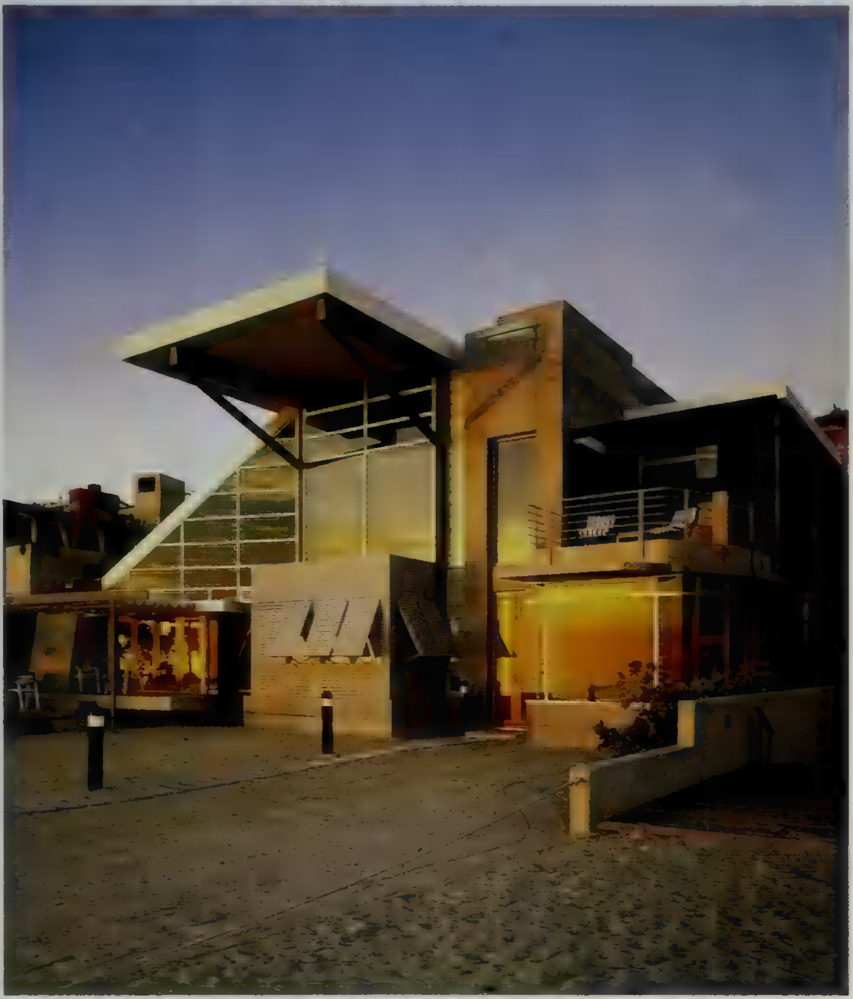
t's that combination of accessibility and aloofness that Quigley has
anaged to capture in this 3,700-square-foot structure, one of several
ewcomers to the Orange County enclave. The architect organized
e building's mass in a rough U-shape around an internal garden to
reate privacy from the street. The split personality was developed
ven further by exploiting the difference in the site from front (along
e street) to back (on the beach). Explains Quigley: "East-west ori-
nted planes reinforce the rigid, parallel property lines. North-south
lements respond more freely to the primal forces at work on the
eashore, assuming soft curves and eroded shapes."

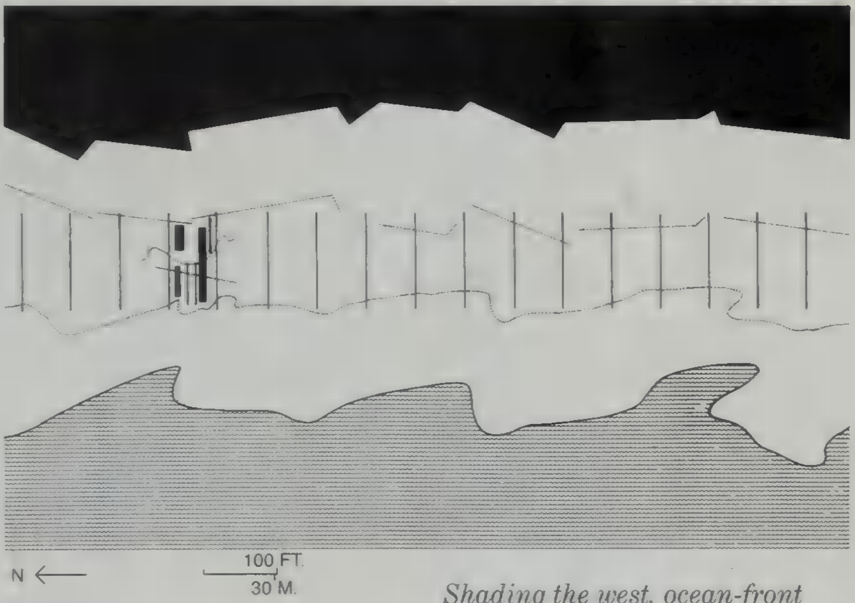
he client, a Los Angeles-based couple, had enjoyed a waterfront,
reenhouse-like restaurant in San Francisco, and asked Quigley to
uplicate the effect of glass-enclosed spaces while still providing
mple wall space for their collection of modern art. "Because it's not
holly logical, the house has a quality it otherwise wouldn't have,"
ays Quigley of reconciling such opposite requirements in the design.
hat's more, large expanses of glass on a west-facing beach present
e added problem of enormous heat gain, which was solved by
aking the tent-like glass canopy out of double layers of glass with
eat resistant properties. (One layer is tinted, with a low-E coating,
d the other is tinted and fritted.) "[This is possible] because of new
lass technology;" says the architect, "this house would have been
possible to build 10 years ago." While wood shutters and deep roof
erhangs provide additional shading, giant pivoting glass doors,
tractable skylights, and operable windows tucked into at times
probable locations provide generous cross-ventilation.

ovement through the house follows a carefully choreographed
quence of overlapping outdoor and indoor spaces that "introduces
u to the beach slowly and methodically," according to Quigley. The
amatic path is intensified by the confines of the narrow, 68-foot by
0-foot lot. A sense of the unexpected is further developed by the use
materials in surprising ways. Black asphalt shingles, for example,
e an exterior cladding along the street (previous pages)—their
ainy texture seems at home in the sandy environment. The shingles
appear in the master-bedroom as a decorative wall treatment
ound the bed.

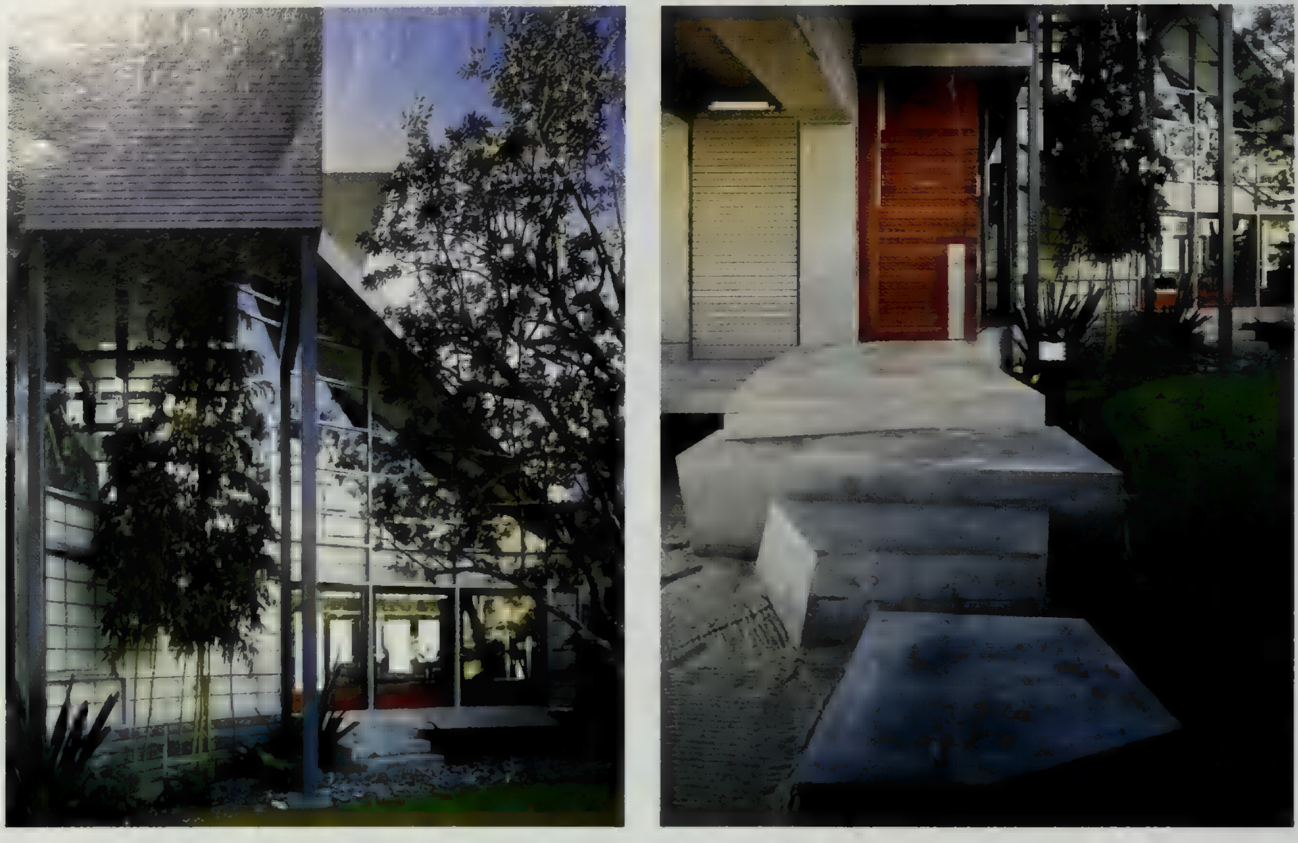
hile Quigley has built a reputation in his adopted home of San Diego
a designer of low-income housing [RECORD, July, 1992, pages 78-
], this project allowed him to explore themes of vernacular
nstruction, technology, and craft on a grander scale. Quigley is out-
oken on the critical role of his client—be it community group or
ivate individual—in the design process, going as far as to *suggest* a
ogram of interactive public workshops when working on a civic
ilding. Quigley defies conventional wisdom that collaboration
eates a watered-down design. He says: "Participatory design leads
stronger buildings." *Karen D. Stein*

© David Hewitt/Anne Garrison photos



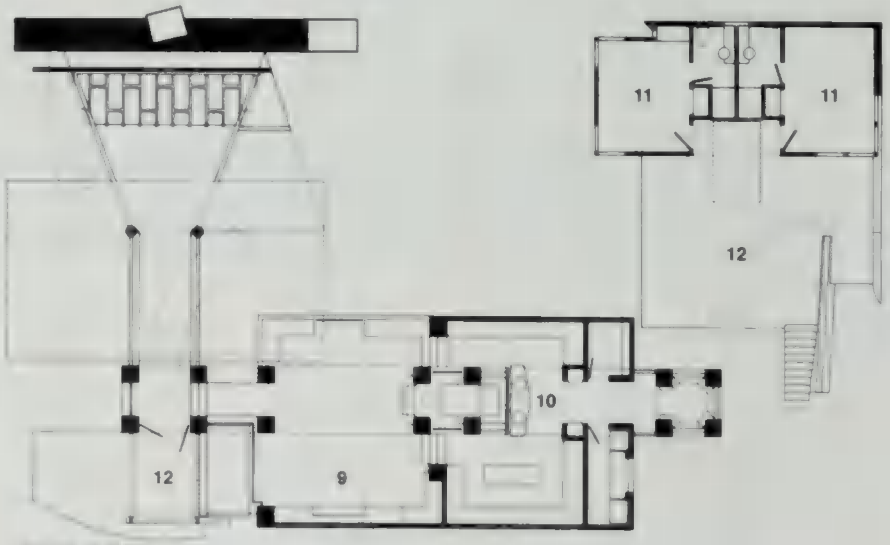


Shading the west, ocean-front side of the house is critical to reducing internal heat gain, so Quigley created a 16 1/2-foot overhang to shield the double-height central space (top and opposite). A sitting room, clad in panels and moveable shutters of stained redwood slats, juts out on the beach. The narrow site (conceptual site plan above) dictated the compressed geometry of the plan.

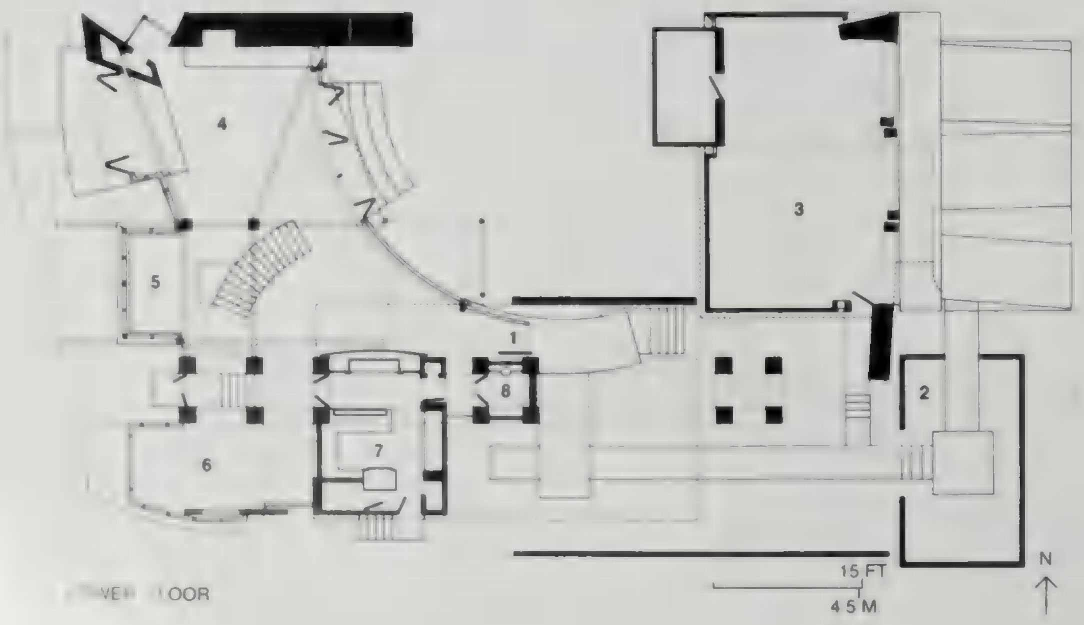


From the street, visitors enter an overlapping series of enclosed spaces (plans below left)—a small vegetable garden, a sandy terrace criss-crossed by concrete walkways, and a tree-lined wedge of grass, a leftover from the yard of the previous house (far left)—that lead toward a two-bedroom guest house over the garage and the main structure (near left).

Mahogany-framed pivoting glass doors open the living area to the interior courtyard, helping to cool the space. In between the exposed reinforced-concrete structure, gray-stained redwood channel shiplap siding was used to recall more casual beach-front cottages, says Quigley. A powdered pigment mixed into the concrete gives it a blueish hue.

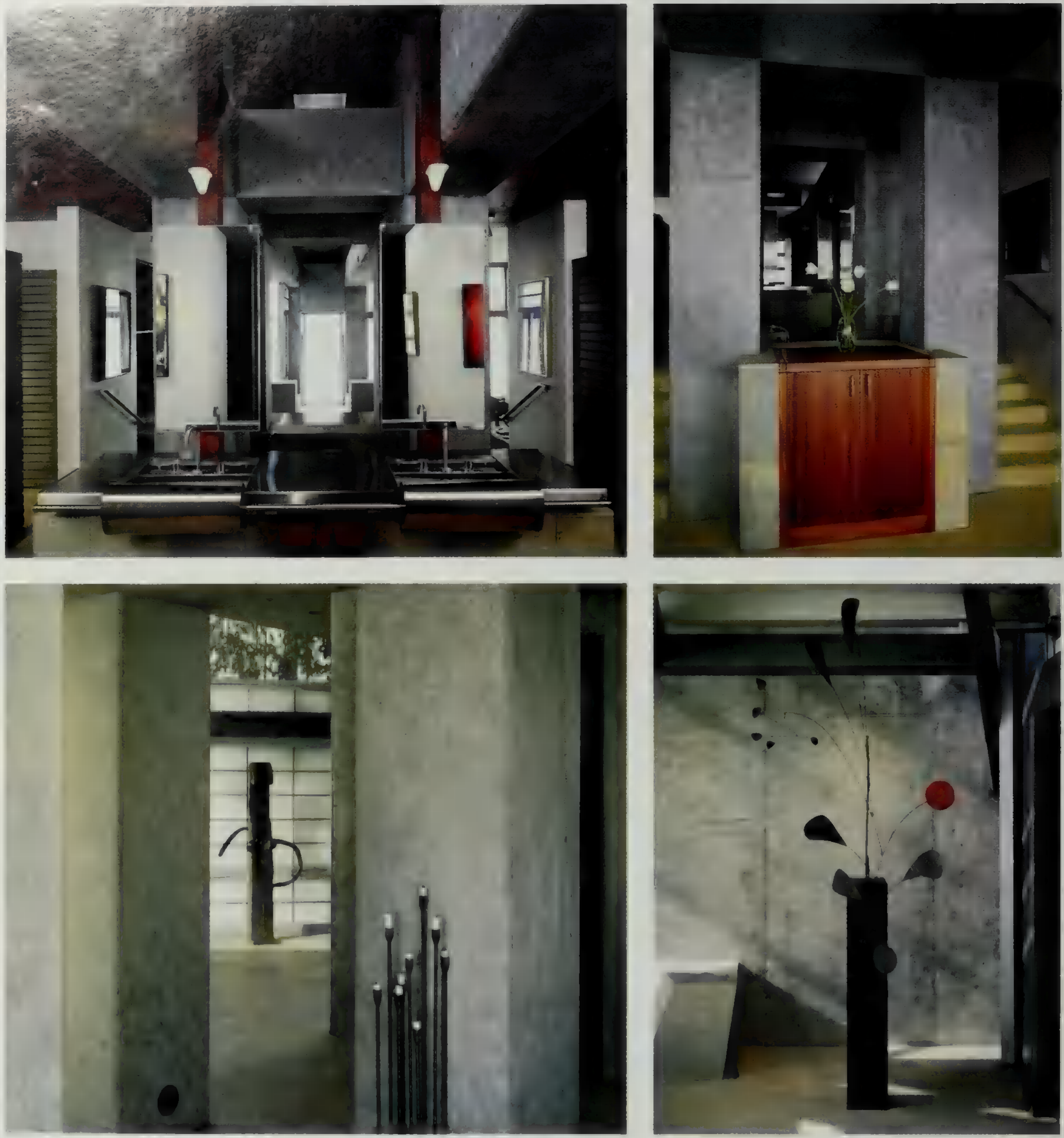


UPPER FLOOR



LOWER FLOOR

1. *Entry*
2. *Vegetable garden*
3. *Garage*
4. *Living room*
5. *Sitting room*
6. *Dining room*
7. *Kitchen*
8. *Bathroom*
9. *Master bedroom*
10. *Master bathroom*
11. *Guest house bedroom*
12. *Deck*



On the second floor, windows at both the west and east ends of the house extend a sweeping view from the ocean through the master bathroom (top left) to the street-front garden (top right). Downstairs, concrete walls and translucent fiberglass insulating panels fashioned into a curved shoji screen are backdrop to the client's collection of Modern art (bottom left and right). The [illegible] staircase is framed by [illegible] perforated metal that [illegible] the effect of dappled light [illegible] main space. Two layers of glass, including fritted panes, reduce internal heat gain and meet California's stringent codes restricting the amount of glass surface area allowed in a structure. In addition, the concrete frame, says Quigley, serves as a "thermal sink" by absorbing heat.

Credits

Capistrano Beach Glass House
Orange County, California
Architect: *Rob Wellington Quigley—Rob Quigley, principal-in-charge; Catherine Herbst, project architect; Teddy Cruz*
Engineer: *Integrated Structural Design (structural)*
Consultants: *Patrick Quigley & Associates (lighting); Limn Company (interiors/furnishings)*
General Contractor: *Mark Falcone Contractor—Darren Harper, construction superintendent*

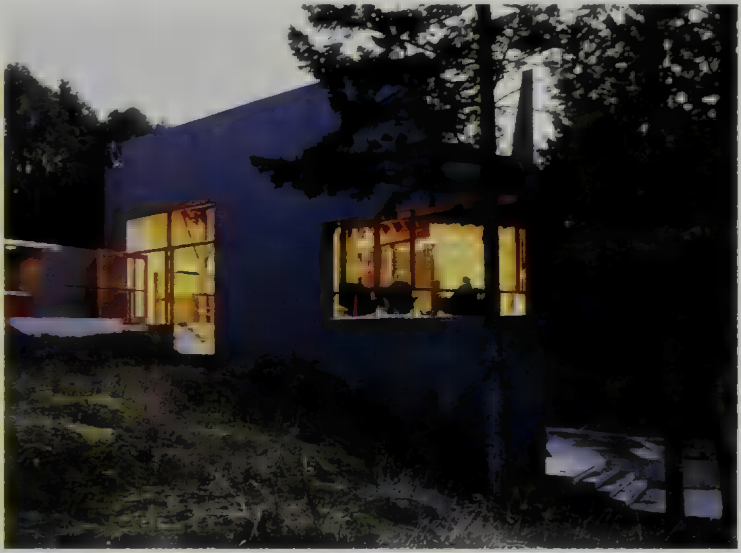
Focused by the Landscape

Barnes House
Nanaimo, British Columbia
Patkau Architects, Architect

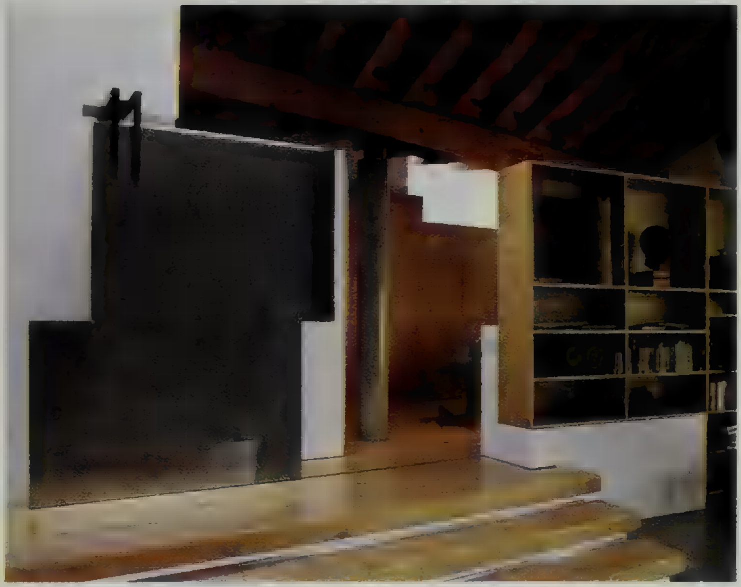
he Barnes house could be mistaken for an outcropping on its lightly forested, rocky site. Only a razorlike 3/8-in.-thick steel-plate canopy, projecting from the stucco-on-wood frame exterior, hints at a different nature within. The house's apparent introversion seems at first confirmed. Inside the lower-level entrance, below the canopy (opposite), a low window frames a close-up view of the mossy rock cleft within which the house is set. At the top of the stair, the house seems to unfold. A pivoting window wall reveals an outdoor terrace perched hundreds of feet above the 20-mile-wide Strait of Georgia, and expansive views open north to the mainland of British Columbia.

Dappled by sun from the side and overhead, the kitchen, terrace, and dining and living areas flow together, suiting the owners' nature-oriented, informal lifestyle. (Such a lifestyle is well suited to Nanaimo, a timber town turned retirement mecca on Vancouver Island.) The clean lines of the polished-concrete floor, the crisp metal brackets and rails, and the smooth drywall interiors evoke a city loft more than a country house. But these elements are tempered by the unsanded-wood framing and by cabinetry and doors (such as the sliding one, middle right) that surprise in their puzzlelike intricacy.

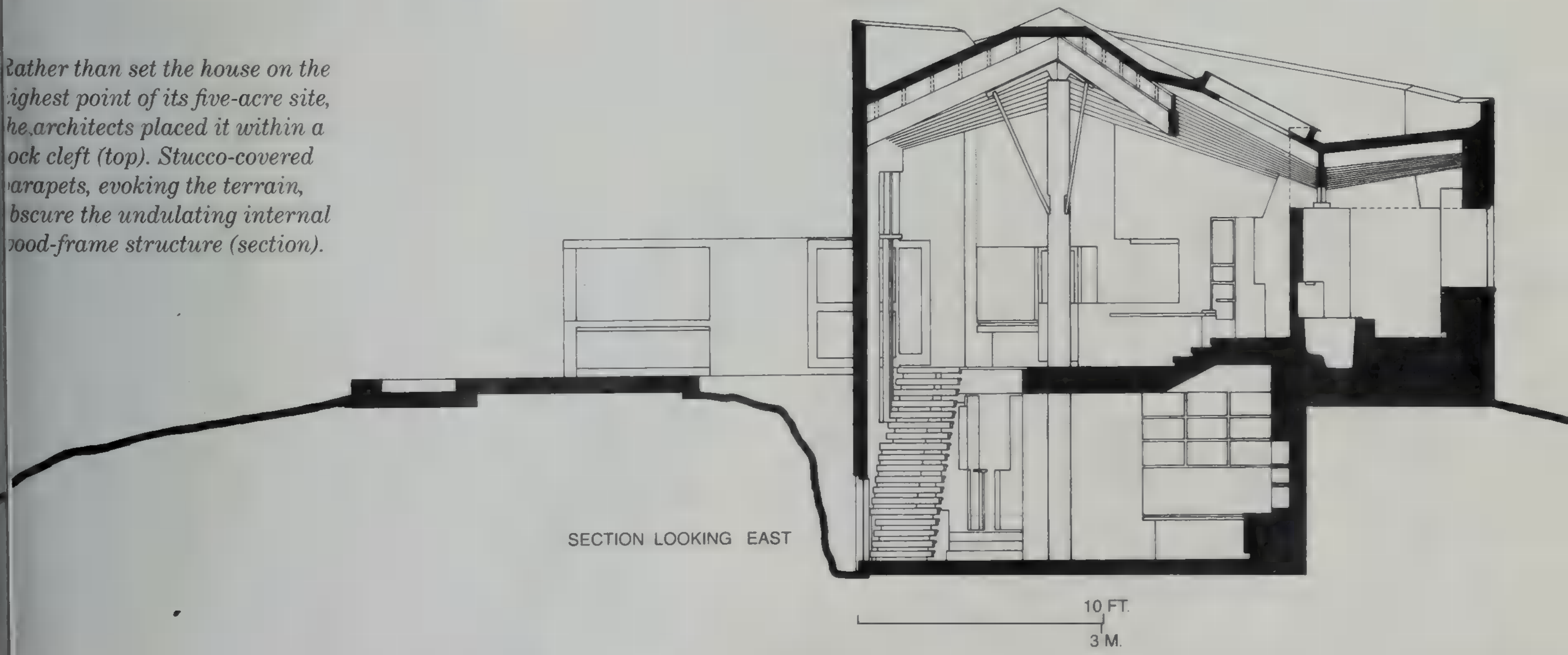
Satisfied neither with traditional details nor abstract form-making for its own sake, John and Patricia Patkau take a sculptural approach, but consciously permit the pure idea to be "adjusted" by the realities of beam spans, site conditions, and clients' ideas about living. There are no all-encompassing esthetic principles here. That the house feels as if it has evolved naturally from and expresses the uniqueness of the place and its occupants is central to the architect's approach. As John Patkau explained in last year's John Dinkeloo Memorial Lecture at the University of Michigan, they learn by building, sometimes making painstakingly crafted models of completed work, "to find a way from one project to the next, to understand what we are doing, and to somehow build on that to find some form of mature expression."
James S. Russell



© James Dow photos



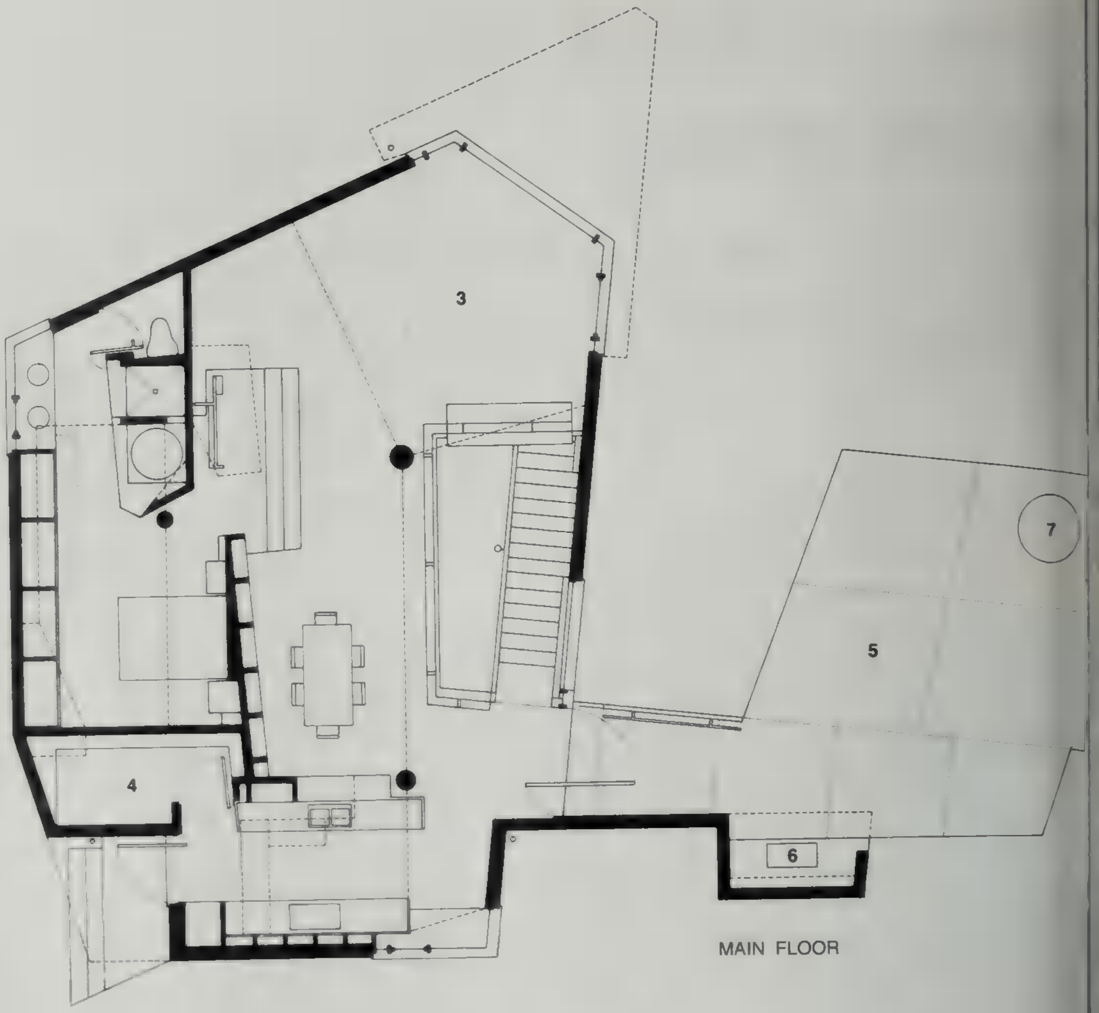
Rather than set the house on the highest point of its five-acre site, the architects placed it within a rock cleft (top). Stucco-covered parapets, evoking the terrain, obscure the undulating internal wood-frame structure (section).



[illegible] and Patricia Patkau see the house as "a landscape focusing device." It is wedged in a narrow cleft between two moss-covered rock outcroppings at trees' edge. At its east end, the house is framed orthogonally (bottom of plans) and a concrete column carries exposed rafters high over the dining area.

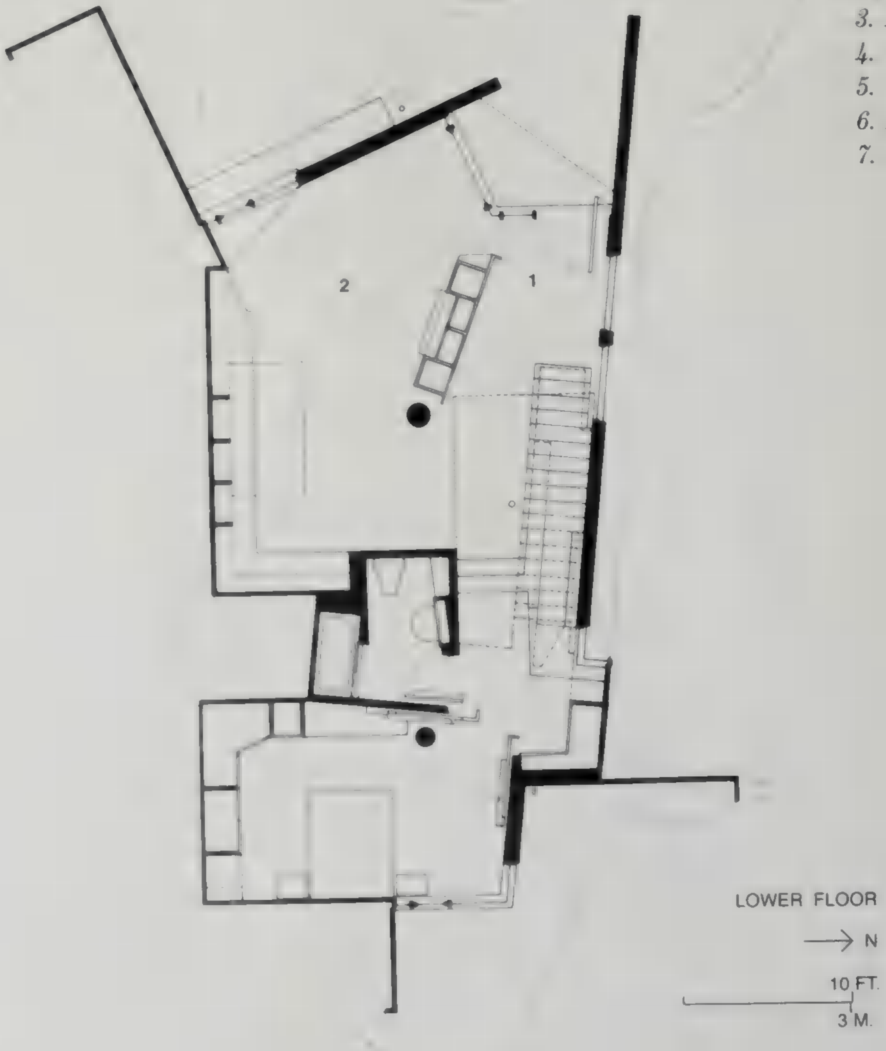
Moving west, John Patkau says, "We made a variety of adjustments to shape the view, to fit into the rock. By making those adjustments, the geometry sort of came about. It's not something we began with." A diagonal cuts across the living area and the vertebrae-like framing dips down (opposite), carrying the eye toward a wedge-shaped prow (extended by the metal canopy) to a view along the slopes of Vancouver Island and island-dotted bays.

Credits
Barnes House
Nanaimo, British Columbia
Architect: *Patkau Architects—Tim Newton, John Patkau, Patricia Patkau, David Shone, Tom Robertson, team*
Engineer: *Fast & Epp Partners (structural)*
Contractor: *R.W. Wall Ltd.*



MAIN FLOOR

1. *Entry*
2. *Studio*
3. *Living room*
4. *Utility*
5. *Terrace*
6. *Barbecue*
7. *Firepit*



LOWER FLOOR

Manufacturers' Sources

For your convenience in locating building materials and other products shown in this month's feature articles, RECORD has asked the architects to identify the products specified.

Pages 72-79
Stremmel House, Reno, Nevada
Mack Architects, Venice, Calif.; 310/822-0019
Ground-face block: Basalite. Aluminum storefronts: Custom Glass (Reno). Stained-concrete floor: Bomanite. Drywall and wet plaster: U.S. Gypsum. Track fixtures: Halo. Living-room and dining tables and seating: Terry Hunziker, Interior Design. Low-voltage MR16 lighting: LucePlan. Radiant heat system: MasterService Plumbing.

Pages 80-83
Island House: Tikamaga, Decatur Island, Wash.
Miller/Hull Partnership, Architects, Seattle, Wash.
206/682-6837
Argon-filled wood windows and sliding doors: Quantum Windows & Doors, Inc. Board and batten siding: Western red cedar. Ceilings: Hemlock. Cabinetry: Avery Builders. Recessed lighting: custom by architects.

Pages 84-89
Bridge House Retreat, Olive Bridge, N.Y.
Peter Gluck and Partners, Architect
New York City; 212/255-1876
Corrugated-metal rain-screen cladding: Bethlehem Steel (Galvalume). EPDM roofing: Carlisle Syn-Tec System. Stone-tile flooring: Summitville Tile, Inc. Interior fixtures: Halo.

Pages 70-73
Lott House and Guest House, Houston
Carlos Jimenez Architecture Studio, Architect
Houston; 713/520-7248
Exterior structural wood: Boise Cascade. Brick: St. Joe Brick Co. Soffits: Redwood. Shingle roofing: G.A.F. Steel-framed windows: Hope's Architectural Products. Tempered (vision) and laminated (railing) glazing: PPG Industries, Glass Group. Doors: Coast to Coast Mfg. Co. Brushed-chrome lever-handle locksets: Baldwin Hardware Corp. Hinges: Stanley. Stains: Olympic. Paints, concrete sealants: Benjamin Moore & Co. Custom tables: fabricated by Carlton Cook Co. Chairs: Knoll Group (Bertoia Collection). Sconces: Artemide, Inc. Downlighting: Lightolier, Inc. Floodlighting: Hubbell.

Pages 94-101
Burnette Studio/House, Sunnyside, Arizona
Wendell Burnette Architect, Phoenix; 602/395-1091
Insulated concrete block system: Superlite (Integra masonry). Tinted glass: PPG Industries, Glass Group (Solex). Steel-framed IG units, entrances, and special doors: Lewis Machine/Lab Glass. Pivot hinges: Dor-O-Matic. Hydraulic pivots: Dorma. Single-ply ballasted roof: Carlisle. Glazing film: Madico. Cabinet pulls: Modric Allgood. Sealant on custom MDO-formwork partitions: Waterlox. Landscape lighting: Nightscape (Lawnliter). Integrally colored concrete: Hillyard (Okon Clear). Living-room seating: Ligne Roset.

Pages 102-105
Rural House, Nova Scotia
Richard Gluckman Architects, New York City; 212/925-8967
Bleaching stain on cedar siding: Samuel Cabot. Paints: Benjamin Moore & Co. Red-oak doors: Madawaska Doors, Inc. Locksets: Schlage. Standing-seam roof: Englert (Galvalume). Cabinet pulls: LAMP/Sugatsune. Glides: Accuride. Divided-light windows: Marvin. Oak cabinetry: Mike's Country Kitchens. Slate flooring: Newfoundland Slate, Inc.

Pages 70-73
Capistrano Beach Glass House, California
Rob Wellington Quigley, Architect, San Diego; 619/232-0888
Signlighter fixtures: Columbia Lighting. Uplights and interior spots: Lumiere. Shingles: Sentinel. Mahogany entrance doors: Mark Falcone. Hardware: Orco Door Closers. Stains: Olympic. Bollards and steplights: Hadco. Railings, drawer pulls: CMC Fabricators. Insulating low-E glass: Guardian Industries. Glazed doors: Chris Woodbury/Canyon Wood Products. Special paint: Tnemec. Bath faucets: Kroin. Black spotlights: Lumiere. Sconce: Express Light. Stainless-steel counters: fabricated by McCoy Sheet Metal. Limestone: Somat (Buxy Ramage, France). Sealant: Pro-Seal.

Pages 114-117
Barnes House, Nanaimo, British Columbia
Patkau Architects, Inc. Vancouver, B.C.
604/683-7633
Wood doors and windows: Mike Chan Cabinets. Locksets: Sargeant. Lighting: Lightolier, Inc. ■

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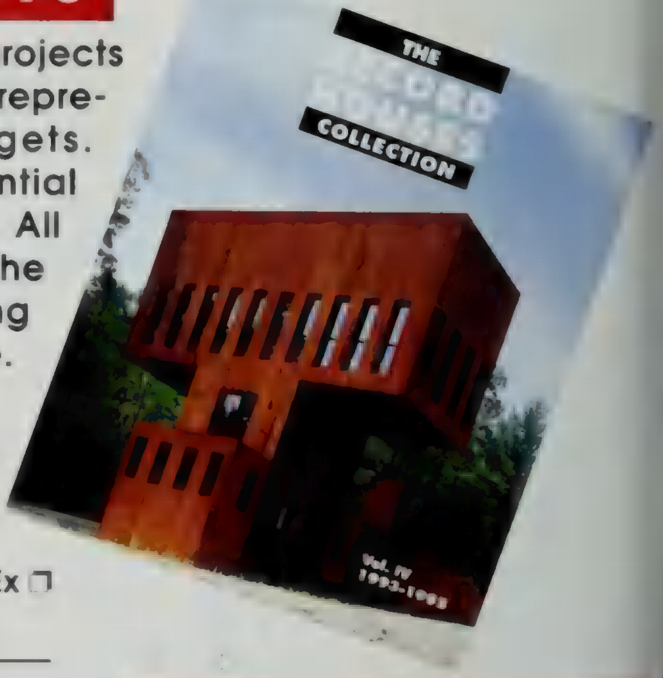

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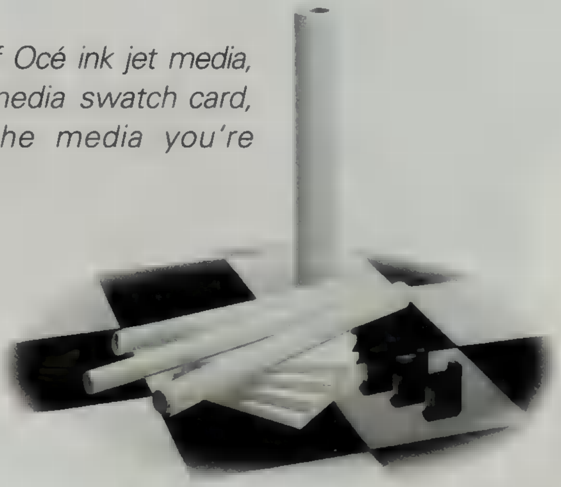

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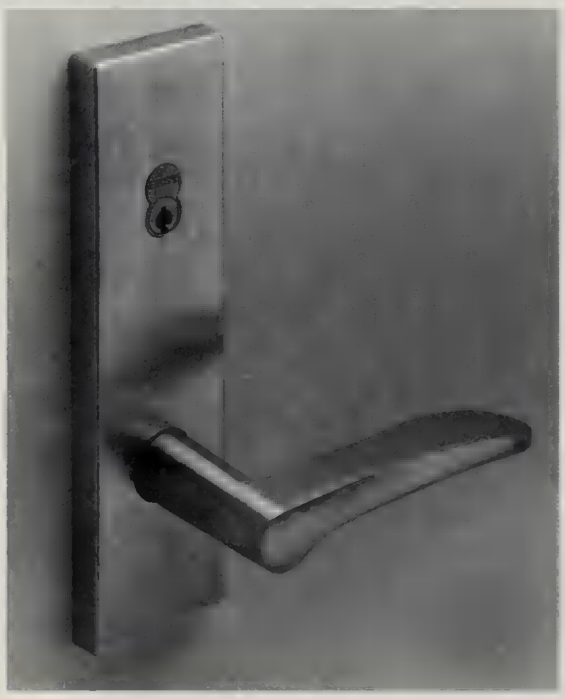
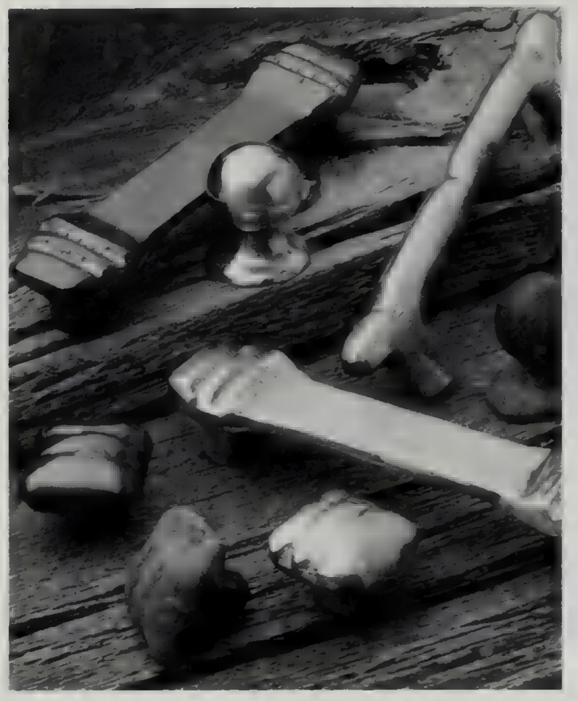
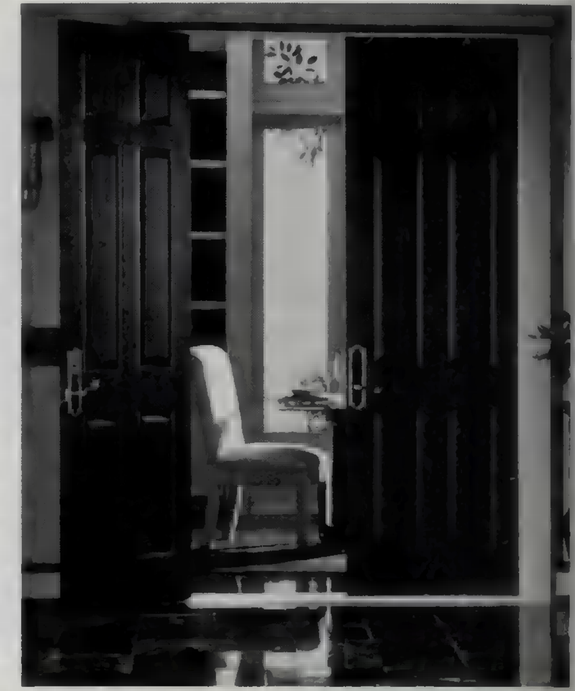


165. Lever-handle lockset
A new design, the #17 Gull Wing can be ordered in brass, bronze, or stainless steel (shown), in a choice of nine finishes. For use with this maker's mortise locks and interchangeable-core cylinders, which permit instant rekeying as needed for key-control security. 317/849-2250. Best Lock Corp., Indianapolis, Ind.



166. Cabinet hardware
One of five decorative styles introduced early in 1996, Primitive Brass hardware has a rustic, hand-forged appearance. Made in pull and knob functions, the line can be ordered in the verdigris, patinated, and satin-brass finishes shown. 800/566-1986. Baldwin Hardware Corp., Reading, Pa.



167. Taller and taller doors
CraftMaster interior doors, with molded facings of composite wood, are now offered in 7- and 8-ft heights. Six-panel designs can be ordered in both natural and harvest stain colors; doors are said to have the feel of solid wood without the weight. A kit supplies door-face and core samples. 800/552-0785. Masonite, Chicago.

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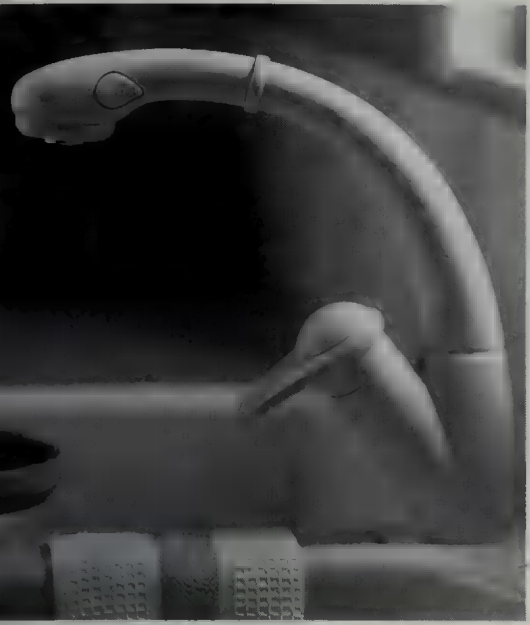
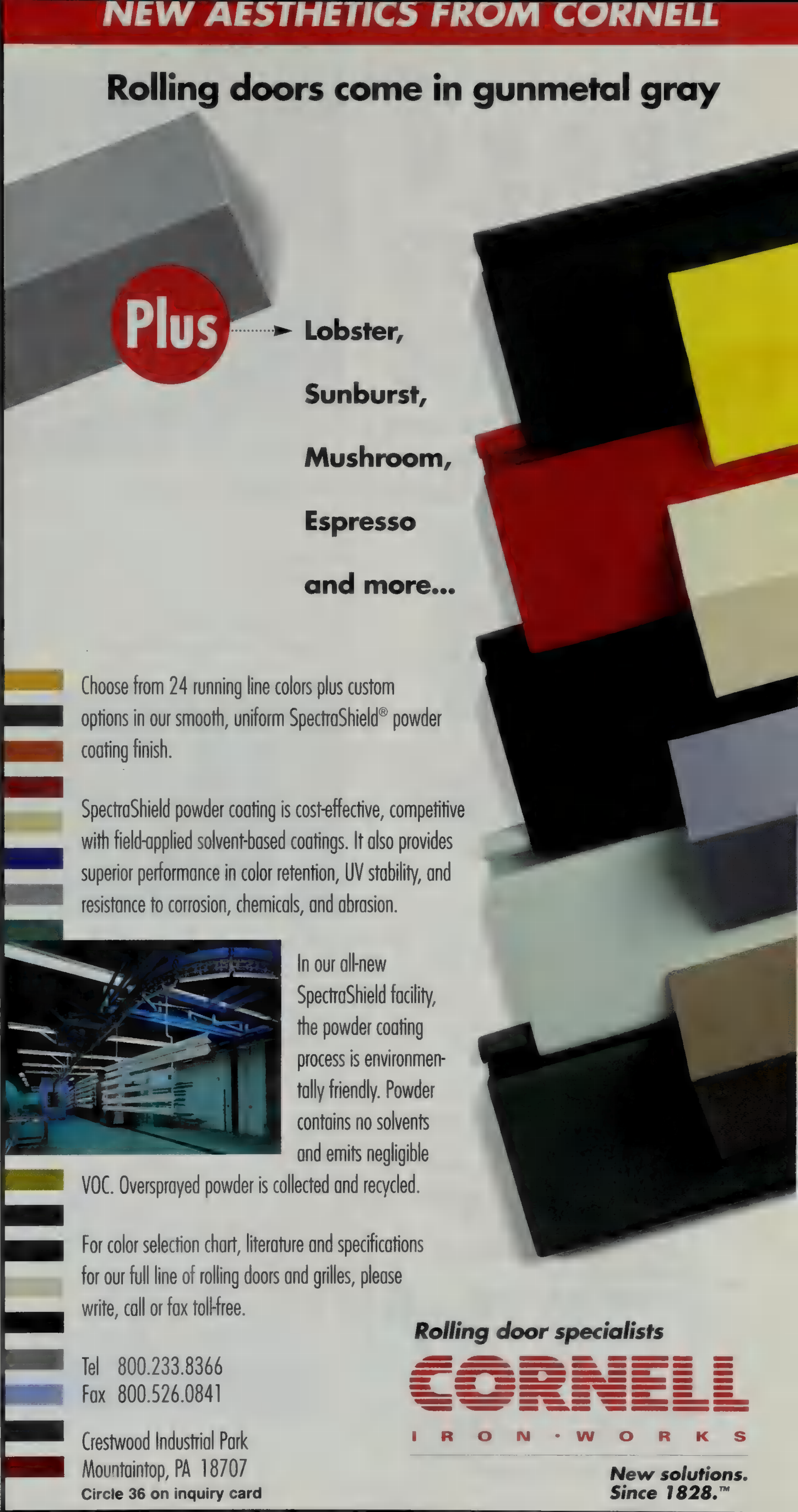


58. Site-specific faucet
e Avatar faucet has an integral pull-out ray said to be designed around natural nd movements. The spray/stream function tton holds at the last-used mode; the ndle, set at a 45-deg angle, can be ordered center-, right- or left-hand placement. e high arch of the swivel spout makes potting easier. Kohler Co., Kohler, Wis.

9. Autoclaved aerated precast
extremely energy-efficient, non-comstible building system developed in rmany and widely used in Japan, Hebel C block, panels, lintels, and other componts can be cut, milled, and trimmed with mal woodworking tools. It can be used for d- and non-loadbearing walls without commising exterior or interior finish options. s described as "a process that improves on ry aspect of building-shell construction in U.S." An architectural data kit includes nples as well as loading- and code-complie information. 800/354-3235. Hebel USA, ., Atlanta. *continued on page 124*

more information, circle item nbers on Reader Service Card.



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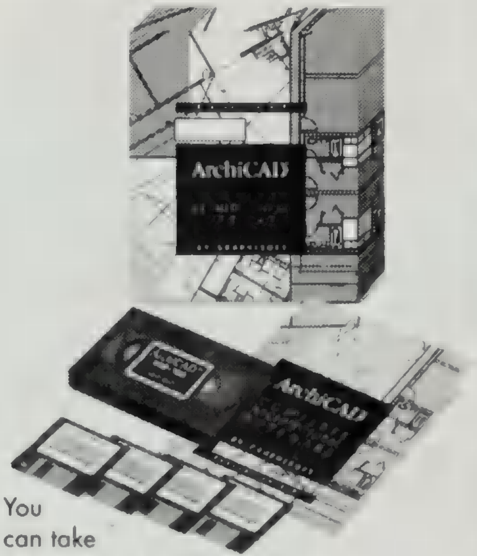

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GRAPHISOFT

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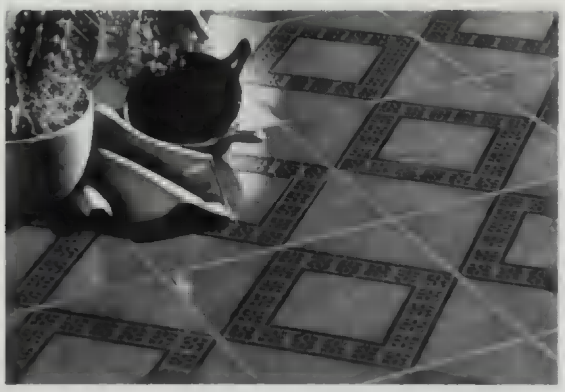
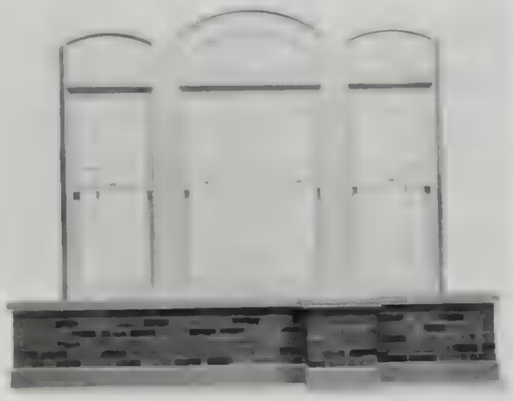
New Products *continued from page 123*

170. Cast-marble flooring
A new line with colored inclusions, Treasure tiles come in 10 colors; Pearl and Lapis are shown in a 12-in. size with 6-in. Nerostone squares. Tiles are 3/8-in. gauge, and come in honed, polished, or textured finish. UL-listed; ADA compliant. 610/353-8801. PermaGrain Products, Inc., Newtown Square, Pa.



171. Vinyl-tile flooring
A new pattern in this maker's Evolution top-grade vinyl tile, Castile has an earth-toned Southwestern look of rustic fired tile overlaid with a Spanish-influenced mosaic. Floor comes in five color combinations. Tiles are said to fit tightly for a seamless appearance; the urethane wear surface has a lifetime guarantee. 609/584-3000. Congoleum Corp., Mercerville, N.J.



172. Restaurant ranges outdoors
A new model in Wolf's Gourmet Series of commercial-style equipment configured for residential use, a stainless-steel, natural- or propane-gas barbecue can cook an entire meal. Features include a 16,000 BTU charbroiler, rotisserie, and an infra-red rear burner. 800/366-9653. Wolf Range Co., Compton, Calif.

173. Solid-surface kitchen sink
A homogeneous composite with a "warm" surface, GE Plastic's Heavy Valox resin makes new PearlStone sinks chemical-, heat-, and impact-resistant. The sink can be cleaned with most cleansers; sanding removes deeper mars. Pinnacle Products, Birmingham, Mich.

174. Complex cladding options
Marvin now offers its commercial-grade extruded-aluminum exterior cladding as a low-maintenance option on even the most complex round-top and circle windows and doors, such a the "Victorian" design pictured. Custom muntin styles and brick-mold casings can be clad in configurations as tight as a 7-in.-radius curve. 800/346-5128. Marvin Windows & Doors, Warroad, Minn.

Continued on page 126

ome Audio/Visual

ontinued from page 41

arge houses, on the order of tens of thou-
nds of square feet, are manageable only
rough these total systems, observes Holt,
no designed a 40,000-sq-ft residence in
alifornia with eight "super" command
ations at various locations (page 39).

rom these stations the client can answer
e phone, monitor home security, and open
gate for a visitor at the end of a half-mile-
ng driveway. The touch of a button will also
t in motion dozens of preprogrammed func-
ons. Hit the "go to bed" button and the
ghting, security, and hvac adjust for the
ght. Another button, "entertain/night,"
sets the systems for arriving guests by
rning on walkway lights, illuminating
ained-glass windows, and wafting pre-
lected music throughout the house.

ıch a "tour de force," as Holt calls it, is not
sy. The project developed over 10 years,
th ever-changing technology integrated by
ian Fogerty, a consultant now with Axion
esign, of Pleasanton, Calif. Still, with
advanced systems, you can call your house from the car, or from an airport thousands of miles away for that matter, to turn on the Jacuzzi, adjust the water temperature, and set the lighting for "passion pit." Welcome to the age of electronic hedonism. But Holt and other architects warn that these systems can be too complex, so that the owner, if not comfortable with programming or resetting controls, is at the mercy of the technology. For such complex systems, a manual override is essential. Re-programming the systems might demand a call to an electronics engineer. Holt's project also required an emergency generator so that security systems could continue running in the event of an earthquake or other disaster. The brains of the house are centrally located in the basement, in an 8- by 25-ft room with its own air-conditioning system to handle the heat generated from all the gear.

If we've learned anything from the advancement of home technology, it is that rather than relieving the architect from having to make choices, it increases the professional's responsibility to help clients make intelligent, informed decisions about the design.

Further information

The Custom Electronic Design & Installation Association (CEDIA), has grown along with the interest in home media centers. Its current roster is 825 member firms. While audio/visual design and installation is the staple of CEDIA firms, many also offer guidance on total-electronics home systems, including lighting and security. A membership directory is available for $35. You can contact CEDIA at 9202 N. Meridian St., Suite 200, Indianapolis, IN 46260-1810, 800/CEDIA30, fax: 317/571-5603, Internet Web site: http://www.cedia.org/cedia. ■

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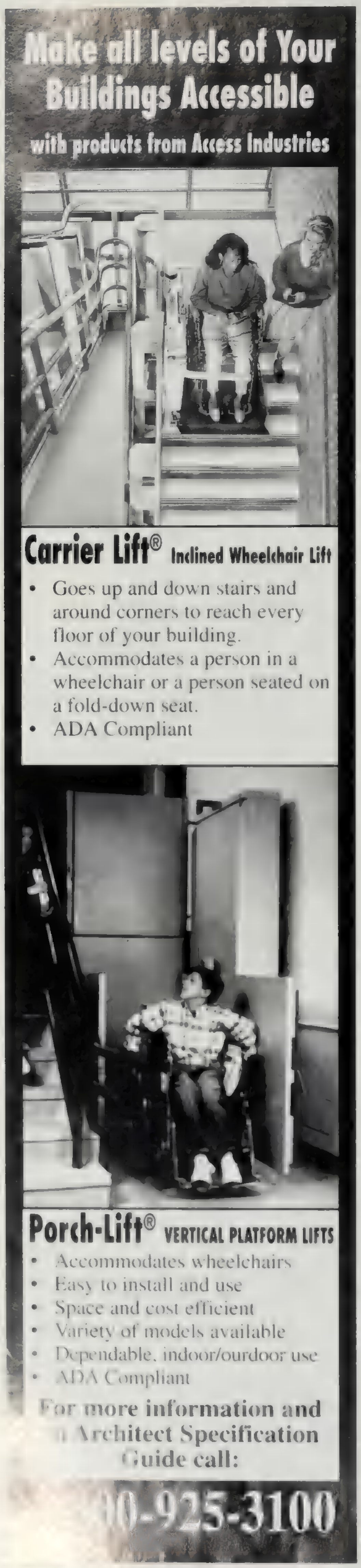
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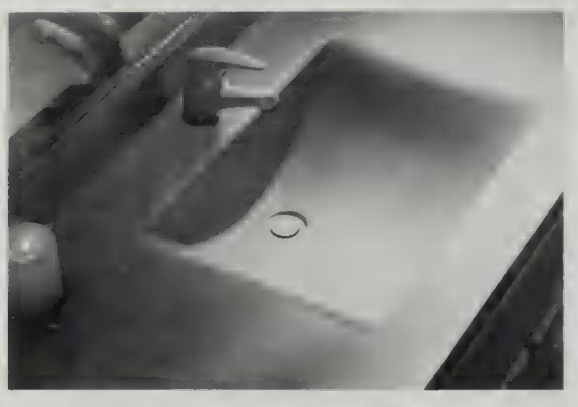
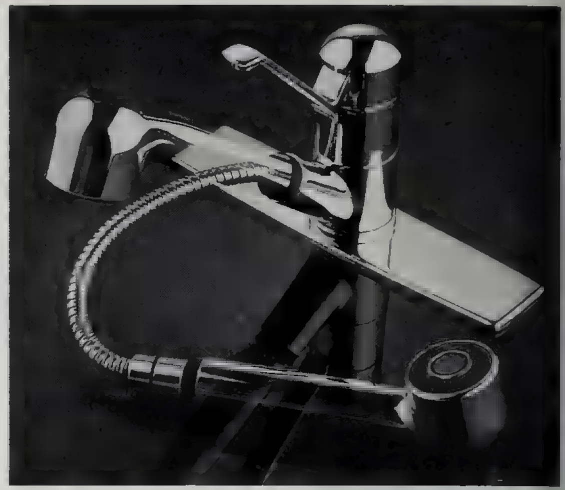
New Products *continued from page 124*



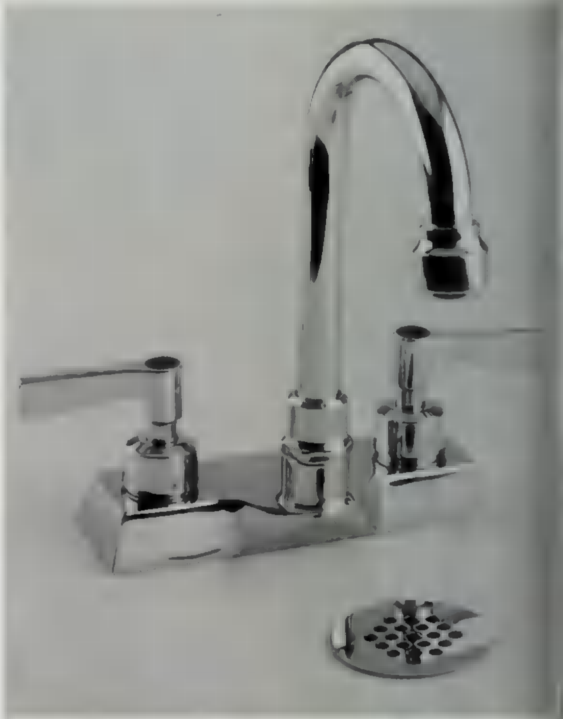
175. Contoured vanity top and basin
Made of Swanstone, a non-porous homogeneous polymer, vanities come with a 13-in.-deep, 20-in.-wide sink set into tops of five different sizes, up to 49- by 22-in. Color options include stone looks and solid shades. Mars and cigarette burns can be removed with mild abrasive cleansers. The Swan Corp., St. Louis.

176. Reduced-flow drench shower
The Bossini three-mode showerhead from Italy is said to deliver a generous shower through a restricting water-saving nozzle. The flow restrictor is made of a pliable material, set within the brass housing, that can maintain an even flow under varying water-pressure conditions. 800/777-9762. Rohl Corp., Costa Mesa, Calif.

177. Deposit-resistant showerhead
The new Touch-clean shower makes it easy to eliminate the mineral build-up that can block water flow. Deposits form at the tip of the nozzle, where they can be removed with a gentle rub of the fingertips or a cloth—the shower does not have to be removed to clean. Comes in four colors (chrome is shown). Delta Faucet Co., Indianapolis.



178. Spray-rinse kitchen faucet
A new, high-style faucet from a manufacturer of plumbing fittings and fixtures for both residential and commercial applications, this pull-out spout faucet combines a spray-rinser function with an aerated flow. Body is all brass; ceramic-disc valve is said to be unaffected by mineral deposits. Made to retail for about $210, the faucet comes in the polished chrome shown as well as a white finish. Universal-Rundle Corp., Milwaukee Faucets Div., Milwaukee.



179. Chrome-plated gooseneck
Commander faucets have both residential and institutional applications, and can be ordered in many configurations to provide maximum accessibility and easy of use. Gooseneck spouts are deck mounted, and can be fixed, or swivel. An integral water-restriction device reduces flow to 2.0 gpm, meeting the existing ANSI A112.18.1M standard. Spouts can fit inflow piping up to 2-in. thick. 302/764-9100. Speakman Co., Wilmington, Del.

Continued on page 128

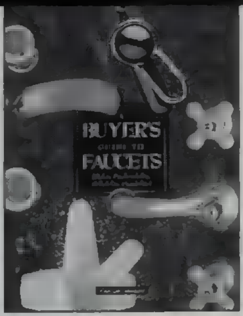
00. Wood window shutters
ecorative and authentic interior ood shutters are covered in a 114-age architectural catalog. Wood ype, finish, installation, and standard nd custom-size options are given on product line that includes louvered hutters, a new zero-clearance esign, cafe doors, bow-window tyles, and shoji. Trade prices listed. 0/443-5357. Pinecrest, Minneapolis.

201. Window and door guide
Andersen's 1996 catalog has 200-plus pages of color photos, detail drawings, custom and standard shape and muntin options, and glazings to meet various climate conditions. New products include decorative Art Glass panels, brass hardware, and a 6-ft 11-in.-high French-style door. 800/426-4261. Andersen Windows, Inc., Bayport, Minn.

02. Kitchen and Bath catalog
or architects, kitchen designers, and ome owners, a single-volume resi-ential-product edition Sweet's File as almost 800 pages of manufactur-'s catalogs. Kitchen and bath tures, appliances, materials, and cessories included; thoroughly oss-indexed. To-the-trade price: 0. 800/442-2258. Sweet's Group, ew York City.

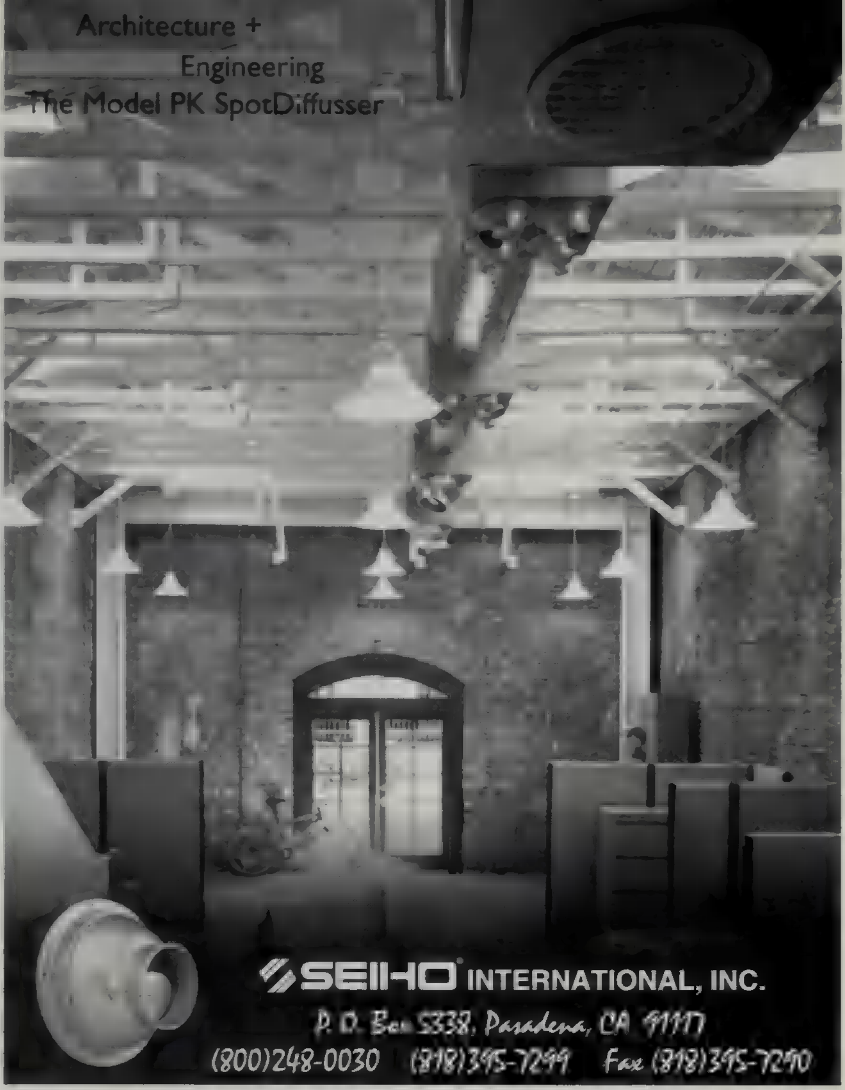
203. Sinks and faucets
A 36-page catalog features standard and new plumbing fittings, including sinks in stainless steel, quartz-composite, and a granite-look material. Also, the Triflow water-filtration system, a new hot-water dispenser, and one-, two-, and three-bowl undermount sinks. A spec guide gives dimensions for each product. 800/626-5771. Franke, Inc., North Wales, Pa.

04. Dual-fuel range
ochure details Viking's new 30-in.-de range that combines a gas oktop with a self-cleaning electric en. Surface burners provide up to ,000 BTUs, with an even-simmer nction on all four burners; the oven s eight bake and broil modes. Avail-le in stainless steel and eight amel colors. 601/455-1200. Viking ange Corp., Greenwood, Miss.



205. Faucets for all budgets
A new 32-page catalog gives piping and use information, finishes, water-flow rates, and ordering details on all of this maker's residential faucets and showers. All products are shown in color; styles range from a simple Cadet faucet to more elaborate Sottini Classic. 800/524-9797. American-Standard, Inc., Piscataway, N. J.

Continued on page 129



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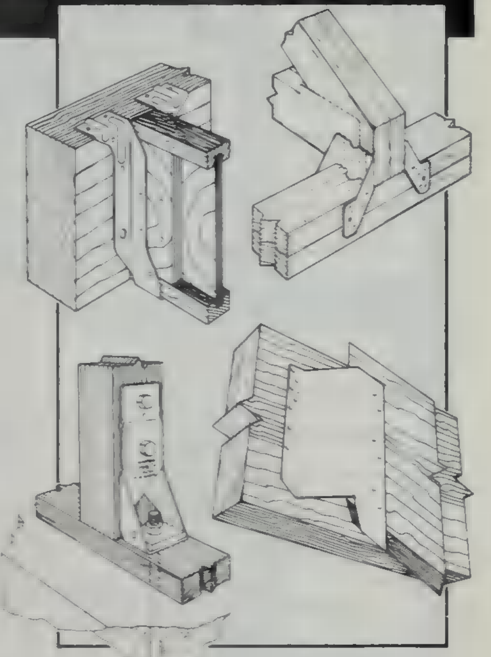

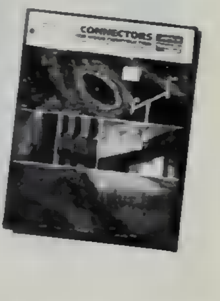

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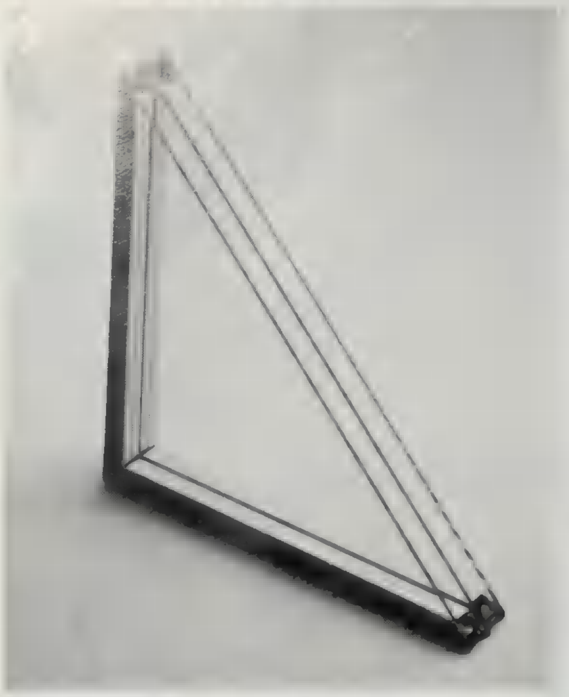
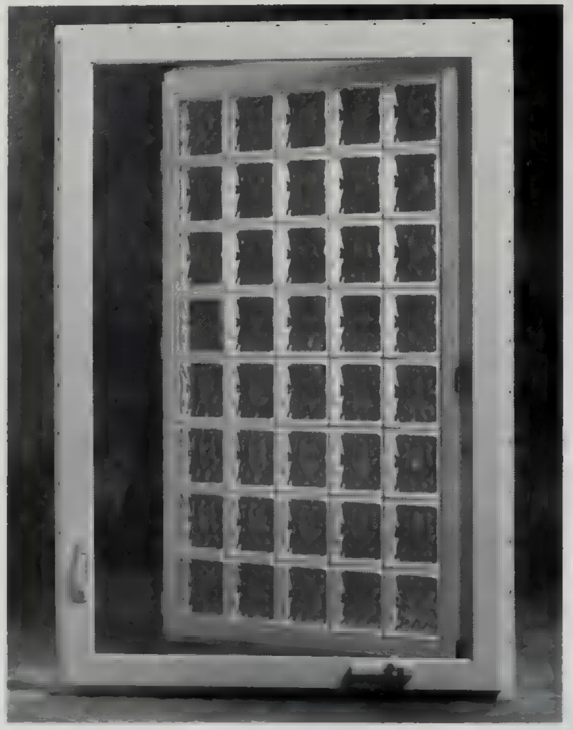
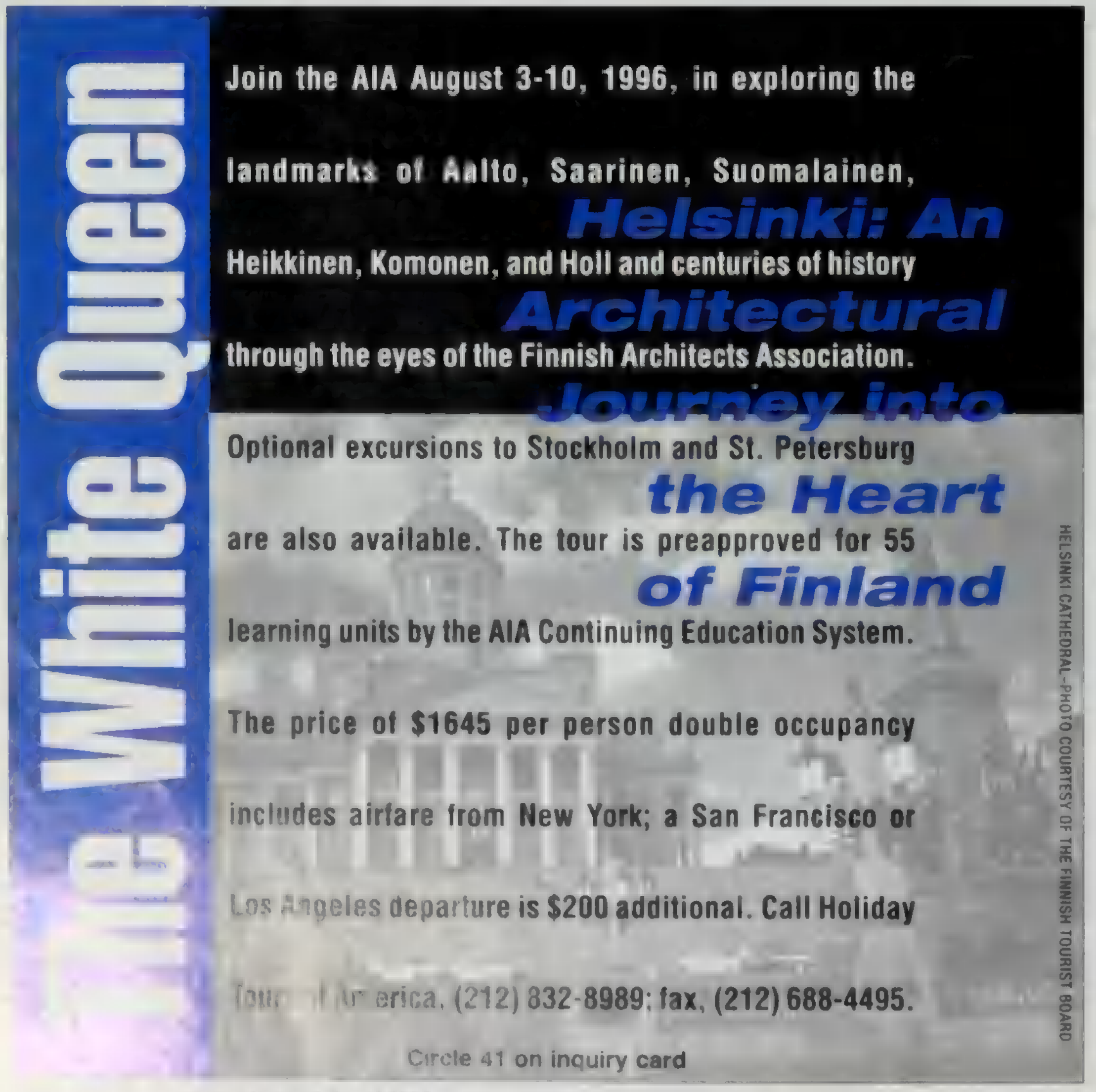


180. Ultra-efficient window
Tested to a heat-loss performance of R-10 for the total unit, Weather Shield's triple-glazed window configuration has two low-E-coated surfaces. A resilient seal system is said to virtually eliminate air infiltration and migration of the argon/krypton gas infill, maintaining the insulating performance over time. 800/222-2995. Weather Shield Mfg., Inc., Medford, Wis.



181. Acrylic-block casement windows
A vinyl-frame version of this maker's operable acrylic-block windows, the Prestige unit is glazed with clear block in any of three patterns. Multipoint locking hardware is stainless steel. Windows are ANSI rated, and are said to pass most local and state codes. 800/827-3691. Hy-Lite Block Windows, Beaumont, Calif.



The White Queen
Helsinki: An Architectural Journey into the Heart of Finland

Join the AIA August 3-10, 1996, in exploring the landmarks of Aalto, Saarinen, Suomalainen, Heikkinen, Komonen, and Holl and centuries of history through the eyes of the Finnish Architects Association. Optional excursions to Stockholm and St. Petersburg are also available. The tour is preapproved for 55 learning units by the AIA Continuing Education System. The price of $1645 per person double occupancy includes airfare from New York; a San Francisco or Los Angeles departure is $200 additional. Call Holiday Tours of America, (212) 832-8989; fax, (212) 688-4495.

HELSINKI CATHEDRAL–PHOTO COURTESY OF THE FINNISH TOURIST BOARD

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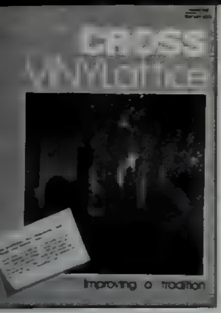
182. Insulating forms for concrete
Expanded-polystyrene forms for poured-in-place concrete create a solid assembly with an R value of about 26 in less time than needed for wood or steel-frame construction. A new field manual and on-site video describes the design flexibility, price stability, and environmental benefits of these insulating concrete forming systems, and includes a vendor and product directory. 847/966-6200. Portland Cement Assn., Skokie, Ill.

183. Freestanding gas range
An extension of GE's Profile line, the 30-in.-wide XL44 gas range offers some commercial-style features, including simmer (600 BTU) and high-output (12,000 BTU) cooking options. Oven has a full-width door and handle. Knobs are large; finish is brushed chrome. GE Appliances, Louisville, Ky. *continued on page 130*



06. Vinyl lattice and railings
design brochure illustrates low-
aintenance PVC lattice used as
orch railing, stairwell screening,
azebos, arbors, and landscape ele-
ents. A traditional, overlapping
ttice, the material comes in several
zes of diamond-shaped and square
atterns; can be ordered in nine
olors and custom shades. 800/521-
378. Cross Industries, Inc., Atlanta.

207. Noise-control board

SoundStop boards are fire-rated, 1/2-in.-thick, 4- by 8-ft square-edged panels that help block unwanted noise transmission between interior spaces. Boards are installed like drywall over studs to creates an uninterrupted sound and vibration barrier. Diagrams show noise-control systems for steel- and wood-stud walls and floors. 813/873-4027. Celotex Corp., Tampa.

[illegible]. Radiant floor heating
ı architectural guide and illustrated
se histories demonstrate the design
eedom, even warmth, and energy
vings claimed for under-floor
dronic heating. For installation in
ilings as well, the system uses
mestically made PEX tubing, a
xible material also suitable for
table-water distribution. 800/321-
39. Wirsbo, Apple Valley, Minn.

209. Plumbing and fittings

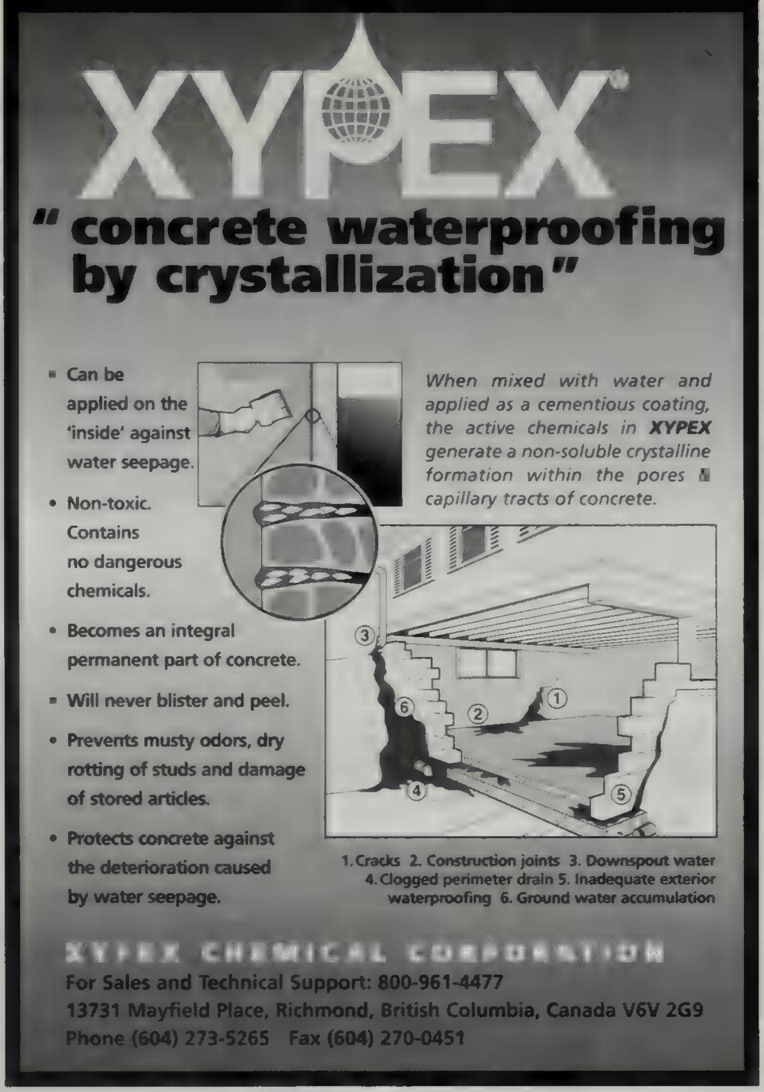
A 1996 wholesale catalog has 112 pages on kitchen, lavatory, bar, tub, laundry, and Roman tub faucets, as well as kitchen sinks in quartz/acrylic composite and stainless steel. All fittings are illustrated; listings include model numbers, finish options and sizes, ADA-compliance data, and prices for all products. 800/553-6636. Moen, Inc., North Olmsted, Ohio.

10. Window-selection guide
26-page catalog gives an overview
the framing, glazing, and design
ements of Pella windows and doors,
ustrating the style and hardware
tions offered by ProLine, Designer,
d Architect Series product lines.
atures include self-stored insect
reening, glazing for any climate,
d dozens of cladding colors. 800/84-
LLA. Pella Corp., Pella, Iowa.

211. Realistic artificial stone

A blend of Portland cement, aggregates, and pigments cast in natural-stone molds for use indoors and out, Cultured Stone is said to have an authentic look and feel, but without the weight. A 48-page catalog shows all textures, including brick, and trims such as water tables, sills, capstones, and hearths. 800/255-1727. Stone Products Corp., Napa, Calif. ■

r more information, circle item numbers on Reader Service Card.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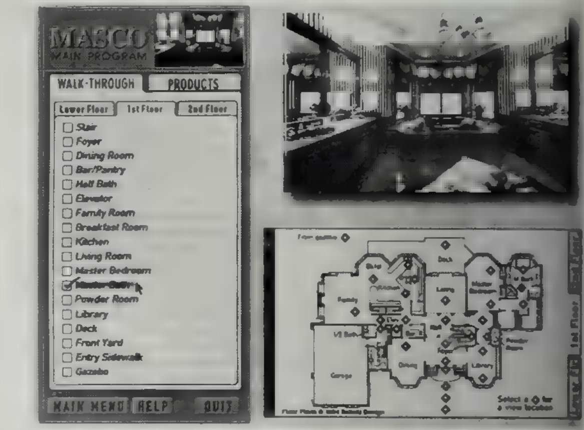
Circle 43 on inquiry card

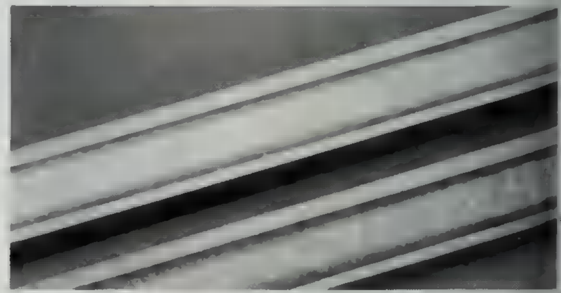
184. Storm-resistant tile adhesive

A two-part polyurethane foam adhesive, developed with the help of the National Tile Roofing Manufacturers Association after wind-borne roof tiles caused extensive damage during Hurricane Andrew, is said to have two to three times the holding power of mortar or nails, even under high-wind conditions. Bonding quickly and permanently to concrete or clay tiles, the foam is much lighter weight than cement mortar, and needs less labor to install. Meets Florida's new Metro-Dade high-wind requirements. 800/774-3626. Polyfoam Products, Inc., Spring, Texas.



185. Virtual-reality showhome

An interactive CD-ROM tours the Masco Corporation Showhome, an 8,500 sq ft "classic revival" home by Scholz Design located in Columbia, Md. Combining photographic and computer-generated spaces, the disk gives a walk-and-view tour that lets users home in on detailed descriptions and catalog shots of 75 different Masco building products. Developed with Apple Computer and RDC, an architectural and multimedia firm. Small charge. 800-241-2537. Masco Corp., Taylor, Mich.



186. Copper-look gutters

A six-in.-wide aluminum profile with a two-tone Kynar finish, the Manor Estate rain-carrying system is said to resemble naturally-weathered copper. Made in 21- and 37-ft lengths, the gutter can support over 50 lbs per linear foot. 800/962-6973. Alcoa Building Products, Peoria, Ill.

187. Top-mount Corian sink

Starlite single- and double-bowl kitchen sinks are an easy-to-install top-mount style in glacier white, cameo white, or almond Corian. Said to be priced comparably to other sink types, it has an integral soap tray, and can be ordered with fittings such as a hot-water dispenser. 708/574-8484. Elkay Mfg. Co., Oak Brook, Ill.

Continued on page 142

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Acme Brick knows that its place in your design scheme is to bring innovative ideas to life with the natural beauty and lasting strength found only in brick. Our selection of textures, sizes, special shapes, and colors offers you an unlimited architectural palette. By patterning two or more of Acme's many colors you can create dramatic effects to enhance the aesthetics of any structure that takes advantage of a brick system. As your creativity goes, Acme goes. We're ready to help transform your artistic concept into architectural reality. Insist on the same quality that architects have relied on since 1891.

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Manufacturers' Spotlight

Chadsworth's 1.800.Columns

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Chadsworth Columns

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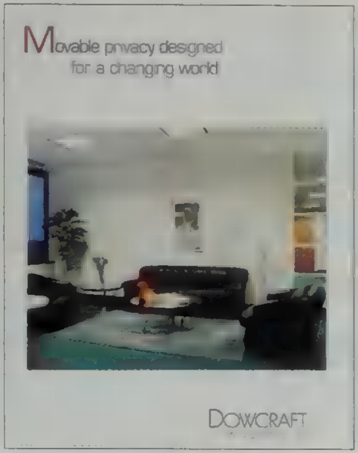
Movable Walls



Flexible and very affordable Dowcraft Movable Walls are presented in a colorful 8-page brochure. The architect is offered new comparative cost-data and environmental factors -- versus the dust, debris and disposal problems of drywall. Dowcraft floor-to-ceiling steel walls are shipped prefinished, preassembled and ready to install over carpeting and under ceiling tile. Architects can specify any of 250 baked-on enamels -- or choose from over 3,000 Maharam vinyls, fabrics and wood veneers.

Dowcraft Corporation

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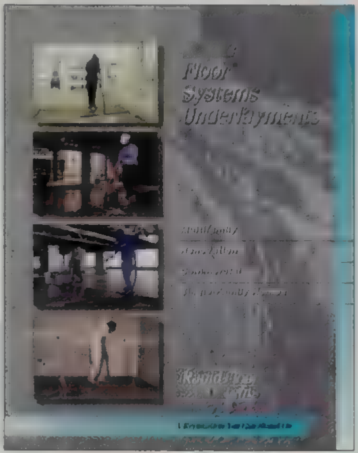
Rapid Floor Systems



Rapid Floor® Systems floor underlayments offer solutions for practically any flooring challenge - from new construction to renovation, commercial to single family applications. But the benefits don't stop there. In addition to fast installation and a new, smooth surface, they also bring significant sound control and fire resistance properties to every project.

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Maxxon™ Corp.

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Raymond Enkeboll Designs

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Openings

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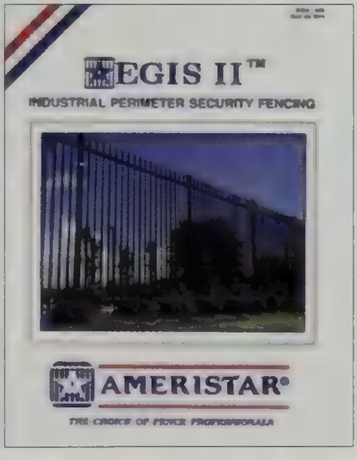
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Aegis ornamental fence systems feature strong Forerunner™ rails, internal retaining rods, & specially designed panel brackets. Aegis II industrial ornamental fence offers the strongest security ornamental fence available in todays market. Aegis holds the distinction of having its fence systems specified by more architects & builders than any other in the market. Both industrial & residential brochures are available upon request & include data on structure, design, & options available. Panel design is a component system for easy shipping. For additional information & a free 8-page brochure, call (800) 321-8724. P.O. Box 581000, Tulsa, OK 74158-1000. Fax# (918) 835-0899

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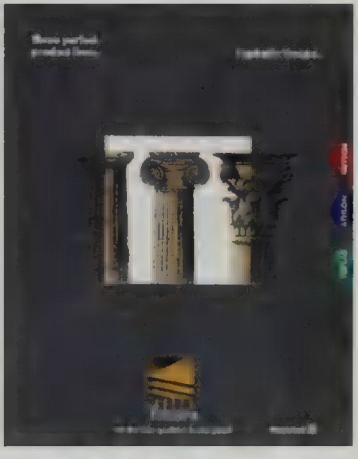

Toplab® chemically resistant laboratory grade panels for benchtops, work surfaces, shelves. Athlon® sanitary grades for toilet partitions, lockers, vanities. Meteon® UV colorfast grade for exterior cladding, soffits, fascias, balcony panels. All grades are durable, available in colors, and proven performers in these applications. 1-800-4-TRESPA.

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Manufacturers' Spotlight

[illegible] Vent-Free Convection heater

The Rinnai Silent Servant heater is designed to heat larger than normal living area's yet blend into any decor. The Silent Servant is feature rich with 7 levels of fan and capacity, 99.9% energy efficiency, LED to show room temperature, child safety lock feature, no open flame, and a 3-year full warranty. This clean burning Natural or LP gas heater modulates the capacity from 5,000 to 20,000 BTU's with continuous operation to keep the temperature constant all day long. Rinnai America

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Rinnai America

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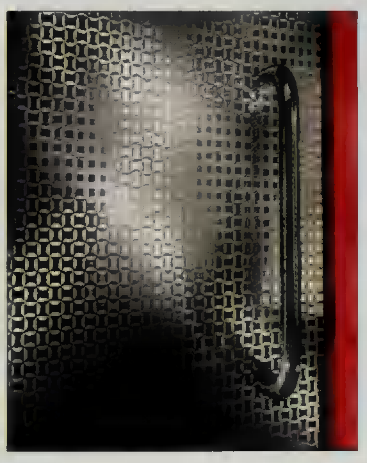

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Structural Board

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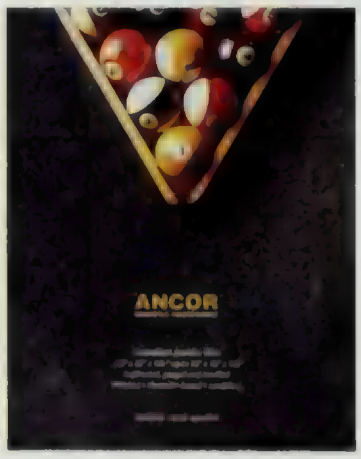
Ancor Granite Tile



Ancor produces over fifty No. American and imported granites in a full range of colors and finishes for residential, commercial and institutional use. Standard format is 12 x 12 x 3/8", other sizes up to 18 x 18 x 1/2" available. Honed finish tile is particularly suitable for high traffic commercial areas. 435 Port Royal West, Montreal Quebec H3L2C3 Canada [illegible]

[illegible]

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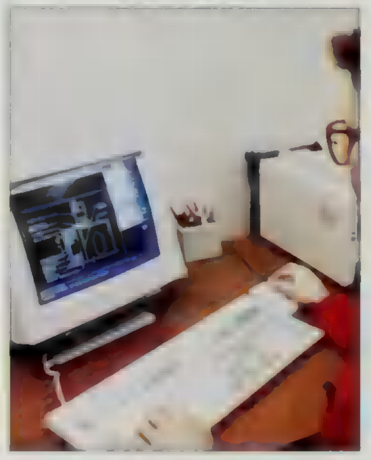
SENERGY CAD-NET SOFTWARE



Architects can cut hours to minutes when designing exterior walls with Senergy's CAD-NET, a new AutoCAD - compatible (V.11 and higher) specification & detail drawing program for Exterior insulation & Finish Systems (EIFS). The CAD-NET program provides specifications & details for Senergy's Senerflex, Senerthik & QRsystem. CAD-NET is available on either 3-1/2" or 5-1/4" diskettes. **For more information: Senergy 1-800-221-WALL. Leaders in EIFS.**

Senergy

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Style-Mark's complimentary Architectural Accents® Product Specification manual provides detailed information on thousands of interior and exterior urethane millwork products. Our manual is *registered* for timely updates. you receive .dxf files (DOS or MAC) to save time and enhance elevations.

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Now Certified for beams and columns for ratings up to 2 hours! A/D Firefilm permits the designer to use the appearance of exposed steel with the steel fully protected from fire. It is applied as a thin-film coating 0.4 to 3 mm (0.02 to 0.12 in.) thick. During a fire A/D Firefilm expands to form a meringue-like layer up to 100 mm thick, which insulates the steel from the fire. The topcoat is available in a wide choice of colours.

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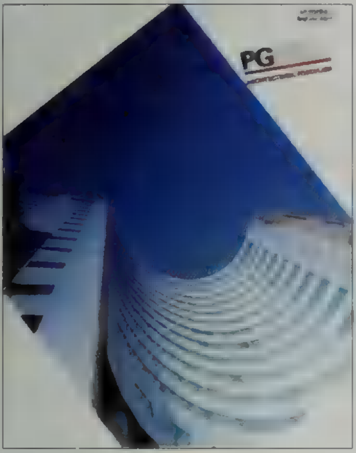
Manufacturers' Spotlight

PG BELL



Porcelain Enamel panels offer designers a solution that has an almost unlimited choice of color; a permanence that will not fade when attacked by the weather, by chemicals, or be marred by vandals.

PG Bell is North America's largest manufacturer of heavy gauge porcelain enamel panels, supplying both wall systems and signage to the architectural market. We offer design assistance, engineering, manufactured panels, and installation services. Our markets are not limited to North America - but are worldwide.

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For a copy of the 1996 catalog (C-96H), write Simpson Strong - Tie Company, P.O. Box 10789, Pleasanton, CA 94588.

Simpson Strong-Tie

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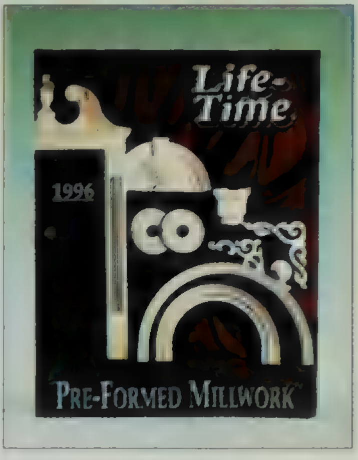

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A full color catalog will explain the different Handy-Shield safety covers offered for the new or retrofit projects that need to comply with the American Disabilities Act. The specific use, sample specifications, drawings and color choice are all summarized in this easy to understand catalog.

Plumberex

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[illegible]ufacture's Spotlight

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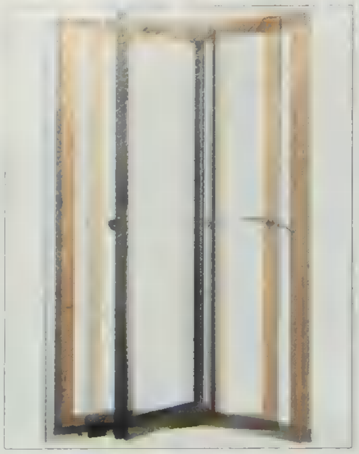

The H Window Casement features an aluminum exterior, wood interior and the ability to rotate 180° for easy cleaning. It's available with total choice of exterior colors, interior finishes, and wood species.

Typical casement are inherently weak, due to the lower hinge and handle mechanism supporting all the window weight. The unique patented H Window hinge hangs the majority of weight from the top hinge guide, allowing for larger windows.

H Window Co.
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H-Window

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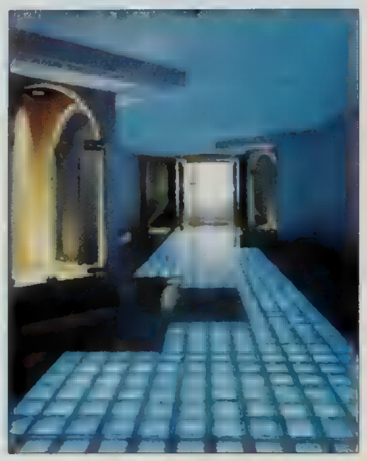

The Innovative Building Products (IBP) Glass Block Grid System™ combines a strong, lightweight aluminum frame with glass block and weatherproof sealant, to provide cost-effective glass block installation without mortar. Applications of the IBP Grid System are limited only by the imagination. Over thirty thousand successful installations worldwide include doors, store fronts, curtain walls, mosaics, shower enclosures, retail displays, signage, furniture, sun spaces and floor

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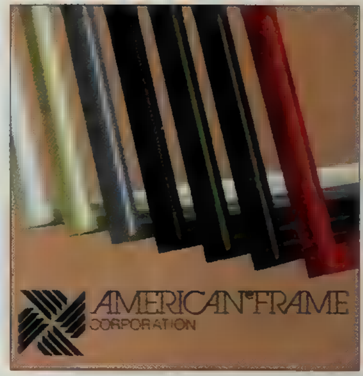
Discover American Frame



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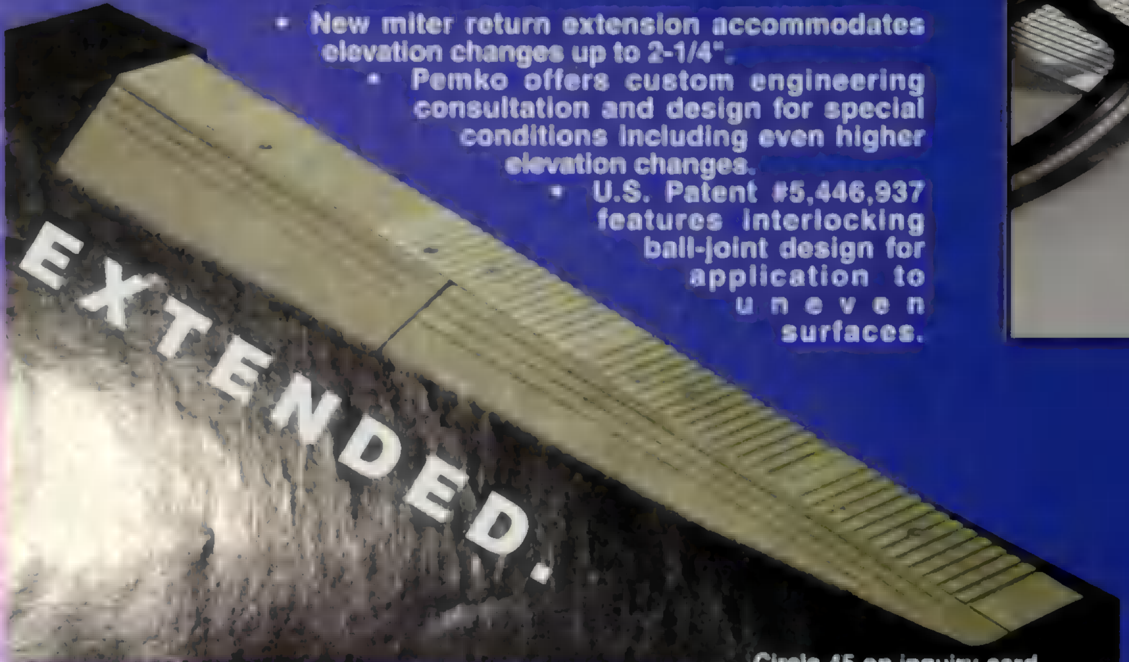

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- U.S. Patent #5,446,937 features interlocking ball-joint design for application to uneven surfaces.

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AIA/CES Self-Report Quality Level Worksheet

his worksheet should be completed and filed with each self-report form submitted to the AIA/CES. To determine the quality level of the rogram/learning project you are reporting, answer the questions below. Stop at the level where "no" is the appropriate response.

uality Level 1—Both Criteria A and B must be met.

. ☐ YES ☐ NO Learning objectives (expected outcomes) related to the practice of architecture were established prior to engaging in this program/learning. (Please list key outcomes you expected to achieve as a result of this program.)

. ☐ YES ☐ NO Learning resources (people or materials) used in this program/learning project reflected an in-depth knowledge related to the learning objectives.

Human resources used

- ☐ In-house expert
- ☐ School faculty member
- ☐ Other ______
- ☐ Practitioner in the field
- ☐ Independent expert or consultant
- ☐ Industry representative

Material resources used

- ☐ Journal articles
- ☐ Program handouts
- ☐ Teleconference
- ☐ On-site observations
- ☐ Books or manuals
- ☐ Audiotape
- ☐ Slides or overheads
- ☐ Other ______
- ☐ Computer software
- ☐ Videotape
- ☐ Tutorial software

uality Level 2—Criteria A, B, and C must be met.

. ☐ YES ☐ NO Interactive (nonpassive) learning activities were a significant part of this program/learning project. (Indicate the means used to accomplish this criteria. Mark all that apply.)

- ☐ Planned Q&A periods throughout program
- ☐ Group exercises and discussion
- ☐ Interactive computer software
- ☐ Writing a paper or article
- ☐ Other ______
- ☐ Simulations or role playing
- ☐ Hands-on activities
- ☐ Problem solving exercises
- ☐ Independent expert or consultant

uality Level 3—Criteria A, B, C, D, and E must be met.

. ☐ YES ☐ NO Some of your learning objectives were based on objective information concerning your actual learning needs. (Indicate the means used to accomplish this criteria. Mark all that apply.)

- ☐ Survey of clients, consultants, building officials, or others familiar with the work of the participants or their peers
- ☐ Informal test group
- ☐ Systematic job performance review
- ☐ Standardized test or practice audits
- ☐ Review of work or performance by expert or peer
- ☐ Other ______

. ☐ YES ☐ NO A means of systematic feedback concerning the learning progress was used during the learning project. (Indicate the means used to accomplish this criteria. Mark all that apply.)

- ☐ Informal posttest
- ☐ Informal pre- and posttests by expert or peer group
- ☐ Postreview of work or performance by expert or peer group
- ☐ Other ______
- ☐ Standardized pre- and posttests or practice audits
- ☐ Pre- and postreviews of work or performance
- ☐ Standardized posttest or practice audit

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AIA/CES Self-Report Form

This form should be completed and submitted with a quality level worksheet for each program/learning project that is not registered with the AIA/CES by the provider.

Member information

LAST NAME FIRST NAME MIDDLE INITIAL OR NAME

AIA ID NUMBER

Program/project title: **RECORD HOUSES**

Start date: _____/ ______/ ______ Completion date: _____/ ______/ ______
MONTH DAY YEAR MONTH DAY YEAR

________Quality level (QL) of this program.
(Use the quality level worksheet to determine the quality level.)

________Number of hours of learning directly involved in the program.

________Number of learning units (LUs) awarded for this program.
(Quality level x hours = learning units)

Check up to three boxes below that are most closely related to your program/learning project.

- ☐ 01 Building Codes and Standards
- ☐ 02 Corporate Architects' Issues
- ☐ 03 Design
- ☐ 04 Architectural Education and Research
- ☐ 05 Educational Facilities
- ☐ 06 Environmental and Energy Issues
- ☐ 07 Health-Care Facilities
- ☐ 08 Historic Resources
- ☐ 09 Housing
- ☐ 10 Interiors
- ☐ 31 Accessibility Design
- ☐ 11 Justice Systems Facilities
- ☐ 12 Project Management
- ☐ 13 Public Architecture
- ☐ 14 Urban and Regional Design
- ☐ 15 Career and Workplace Issues
- ☐ 16 International Architecture
- ☐ 17 Documentation Technology
- ☐ 18 Construction Management
- ☐ 19 Facility Management
- ☐ 20 Public Service
- ☐ 00 Other ____________________
- ☐ 21 Practice and Risk Management
- ☐ 22 Intern Development
- ☐ 23 Building Technology
- ☐ 24 Management and Leadership Issues
- ☐ 25 Computing and CAD
- ☐ 26 Real Estate and Development
- ☐ 27 Financial Management
- ☐ 28 Marketing
- ☐ 29 Religious Facilities
- ☐ 30 Seismic and Extreme Conditions

This program addresses issues concerning the health, safety, or welfare of the public. ☐ YES ☐ NO

I hereby certify that the above information is true and accurate to the best of my knowledge and that I have complied with the AIA Continuing Education Guidelines for the reported period.

SIGNATURE DATE

Send completed form to:

University of Oklahoma, Continuing Education AIA/CES, Room B-4, 1700 Asp Avenue, Norman, OK 73072-6400; fax, (405) 325-6965

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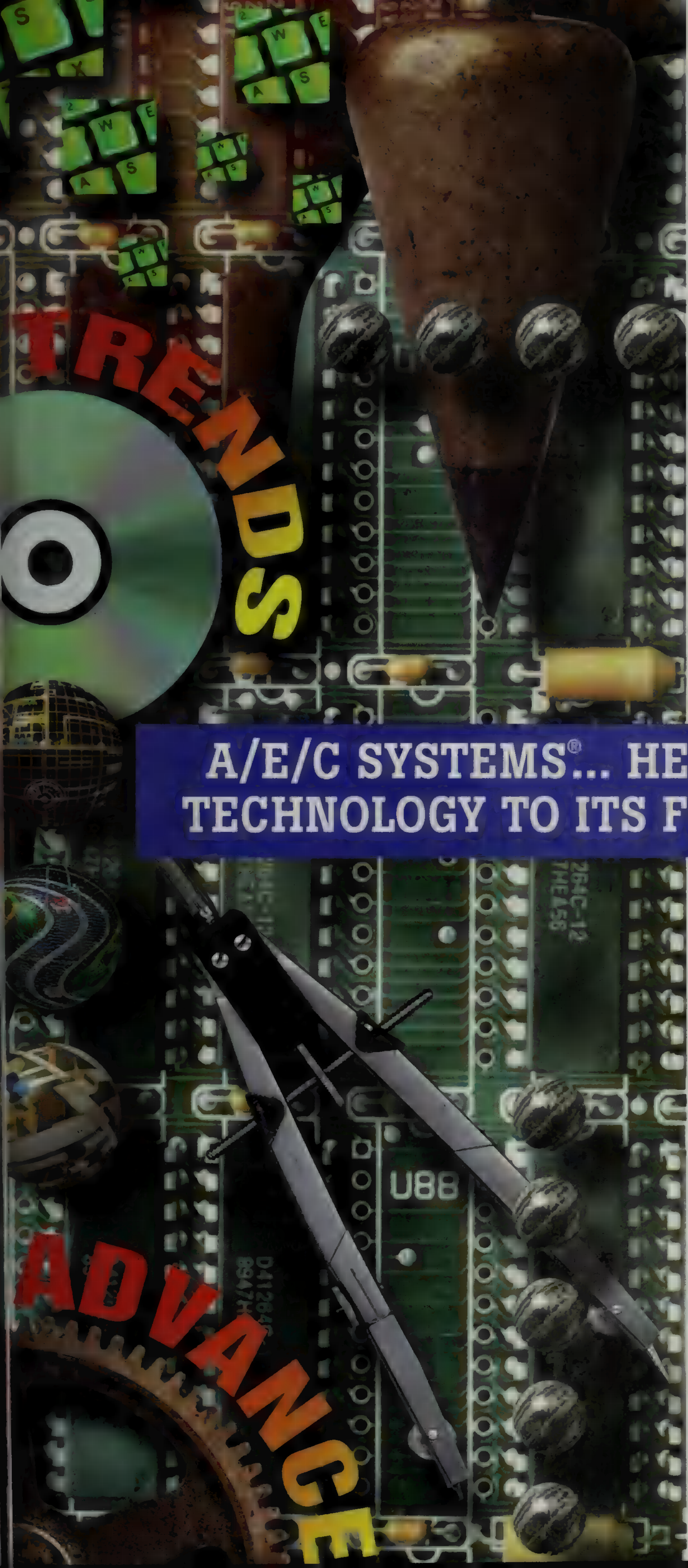

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189. Pre-finished steel entry
The WeatherWise entrance combines an insulated, 24-gauge steel entry door with an easy-to-install composite jamb that can withstand hammer blows. Both come in white; glass-light styles include the arched shape shown. Storm- and intruder-resistant multipoint locks can be ordered. Stanley Door Systems, Troy, Mich.

190. Beyond the French door
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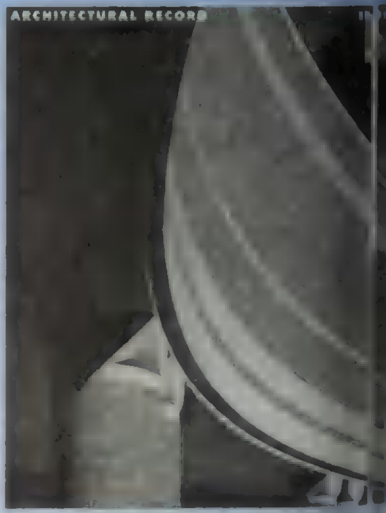

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Home Lumber Company
101 W. Lincoln, Danville, IN
317-745-4441 or 800-339-4392

Niehaus Home Center
1025 Main St., Vincennes, IN
800-466-1923

O'Connor Building Supply
29263 Clemens Rd., Westlake, OH
216-835-9910

Schreiber Lumber
239 S. Muncie St., Indianapolis, IN
317-894-3304 or 800-899-8301

Seigle's Window Center
1685 Holmes Rd., Elgin IN
708-888-7000

Sellersburg Lumber & Hardware
150 Hunter Station, Sellersburg, IN
800-626-9127

Wolohan Lumber
1740 Midland Rd., Saginaw, MI
517-793-4532

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